Requirement

Discuss:
CRM.
Crew comfort level.
Closure rate.
Lead changes (to include EMCON).
Common terminology.
Division formation, emphasize dash-3 position.
Tactical formation maneuvering.
Appropriate formation maneuvers against a FW threat, RW threat, IR missile threat, radar guided missile threat, and AAA threat.
Intra and inter aircraft communications.
Inadvertent IMC.

Introduce:
Break turns, center turns, pinch/dig, cover, TAC turns, in-place turns, split turns, cross turns.
Combat spread and combat cruise.

Review:
Parade formation.
Section takeoffs/landings.
Cruise principles, crossover, break-up and rendezvous, and lead changes.

Performance Standards. Pilots shall exercise appropriate CRM, maintain situational awareness, maintain section integrity and mutual support, maintain appropriate cruise formation and rotor separation throughout maneuvers, utilize radius of turn principles, and employ appropriate commands to maneuver flight.

External Syllabus Support. WST/APT/operable TEN.

FORM-231 1.5 R 2+ CH-46E A (NS)

Goal. Review formation and introduce tactical formation maneuvering.

Requirement

Discuss:
CRM.
Crew comfort level.
Closure rate.
Lead changes (to include EMCON).
Common terminology.
Division formation, emphasize dash-3 position.
Tactical formation maneuvering.
Appropriate formation maneuvers against a FW threat, RW threat, IR missile threat, radar guided missile threat, and AAA threat.
Intra and inter aircraft communications.
Inadvertent IMC.

Introduce:
Break turns, center turns, pinch/dig, cover, TAC turns, in-place turns, split turns, cross turns.
Combat spread and combat cruise.

Review: Cruise principles, turn patterns, crossover, break-up and rendezvous, and lead changes.

Performance Standards. Pilots shall exercise appropriate CRM, maintain situational awareness, maintain section integrity and mutual support, maintain appropriate cruise formation and rotor separation throughout maneuvers, utilize radius of turn principles, and employ appropriate commands to maneuver flight.

Prerequisite. SFORM-230.

5. Terrain Flight (TERF)

a. Purpose. To qualify the PUI in TERF operations/navigation procedures.

b. General. TERF 241-243 instructional flights require a TERF Instructor. Successful completion of TERF-243 constitutes TERF Qualified. A qualification letter signed by the commanding officer stating the pilot is TERFQ is required. The original shall be placed in the pilots NATOPS jacket and a copy in the pilots APR with a corresponding logbook entry. T&R Program Manual establishes TERF altitude restrictions and currency requirements.

c. Minimum Crew Requirements. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (3 Flights, 4.5 Hours/1 Event, 2.0 Hours)

STERF-240 2.0 WST S

Goal. Conduct single and multiple aircraft TERF maneuvers in the low level and contour profiles.

Requirement

Discuss:
CRM during TERF.
Crew comfort level during TERF.
Emergency procedures in TERF environment.
TERF maneuvers (bunts, rolls, quick-stops, masking and unmasking).
Differences between low level, contour and NOE flight.
Map preparation and route selection.
Mission planning systems.
Demonstrate effective cockpit management for precision navigation.

Introduce: Contour and low level flight.

Review: TERF maneuvers (bunts, rolls, quick-stops, masking and unmasking).

Performance Standards. Pilots shall plan and fly a route to a minimum of six checkpoints below 200 feet AGL, TERF navigation utilizing 1:250,000 and 1:50,000 scale maps as appropriate, remain oriented on route within 500 meters, ensure effective CRM for navigation and obstacle clearance, retain positive aircraft control, demonstrate effective cockpit management for precision navigation (GPS as secondary source), utilize proper terminology, as lead retain situational awareness of wingman position and drive section appropriately, as wingman retain situational awareness during navigation, TAC FORM maneuvers utilized properly to control flight.

External Syllabus Support. WST/APT/operable TEN.

TERF-241 1.5 1 CH-46E A

Goal. Conduct TERF maneuvers in low level and contour profiles.

Requirement

Discuss:
- CRM during TERF.
- Crew comfort level during TERF.
- Emergency procedures during TERF.
- TERF maneuvers (bunts, rolls, quick-stops, masking/unmasking).
- Differences between types of TERF flight.
- Map preparation (hazards, etc).
- Low altitude emergencies.

Introduce: TERF maneuvers (bunts, rolls, quick-stops, masking/unmasking).

Review: Blade walk/power checks.

Performance Standards. Ensure effective CRM for navigation and obstacle clearance, retain positive aircraft control, and utilize proper terminology.

Prerequisite. STERF-240.

External Syllabus Support. TERF area (special use airspace preferred).

TERF-242 1.5 1 CH-46E A

Goal. Navigate a TERF route in low level and contour profiles.

Requirement

Discuss:
- CRM during TERF navigation.

Common terminology used during TERF navigation.
Hazard maps.
Tactical map preparation (1:50,000 & 1:250,000).
Time/distance checks.
CNCS employment considerations.

Introduce:
Navigate a TERF route with a minimum of five checkpoints in the low level and contour profile, and remain oriented within 500 meters of course line.
Onboard navigation systems.

Review: TERF-241.

Performance Standards. Pilots shall plan and fly a route to a minimum of five checkpoints at or below 200 feet AGL, TERF navigation utilizing 1:250,000 and 1:50,000 scale maps as appropriate, remain oriented on route within 500 meters, ensure effective CRM for navigation and obstacle clearance, retain positive aircraft control, demonstrate effective cockpit management for precision navigation (GPS as secondary source), utilize proper terminology.

Prerequisite. TERF-241.

External Syllabus Support. Approved TERF route (special use airspace preferred).

TERF-243 1.5 R 2+ ACFT A

Goal. Tactical formations and navigation in the low level and contour profiles in the TERF environment.

Requirement

Discuss:
CRM during formation flight in TERF environment.
Common terminology.
Altitude awareness.
NOE considerations.

Introduce: Tactical formations in the low level and contour profiles.

Review: TERF-242 and FORM-231.

Performance Standards. Pilots shall plan and fly a route to a minimum of five checkpoints as lead below 200 feet AGL, properly control flight utilizing TACFORM maneuvers in the TERF environment, TERF navigation utilizing 1:50,000 and 1:250,000 scale maps as appropriate, remain oriented on route within 200 meters, ensure effective CRM for navigation, altitude and obstacle clearance, retain positive aircraft control, demonstrate effective cockpit management for precision navigation, utilize proper terminology, lead retains situational awareness of wingman position and drives section

appropriately, and as wingman, retains situational awareness during navigation.

Prerequisite. TERF-242.

External Syllabus Support. Approved TERF route (special use airspace preferred).

6. NS High Light Level (HLL)

a. Purpose. To develop skill in the use of NS under light levels greater than .0022 lux (HLL)) as predicted by the Solar Lunar Almanac Prediction (SLAP) and to qualify the PUI in NS HLL operations.

b. General

(1) All instructional flights require a Night Systems Instructor (NSI).

(2) Successful completion of NS-257 constitutes Night Systems Qualified (NSQ) HLL. A qualification letter signed by the commanding officer stating the pilot is NSQ HLL is required to be qualified to carry troops under HLL conditions. The original shall be placed in the pilot's NATOPS jacket, and a copy in his APR with a corresponding logbook entry.

c. Minimum Crew Requirements. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (7 Flights, 10.5 Hours/1 Simulator Event, 2.0 Hours)

SNS-250 2.0 WST S NS

Goal. Introduce NS single and multiple aircraft FAM, CALs, and TERF/Navigation in HLL.

Requirement

Discuss:
CRM during NS CAL operations.
Crew comfort level during NS CAL operations.
Scan technique during FAM maneuvers.
NS low altitude emergencies.

Introduce:
Section CALs in HLL.
NS HUD operations.

Review:
NS preflight/set up.
Single aircraft CALs in HLL.

Performance Standards. Pilots shall plan and fly a route to a minimum of four checkpoints below 200 feet AGL, maintain effective NS/instrument scan, recognize proper closure rate

with intended point of landing, remain oriented on route within 500 meters, ensure effective CRM for navigation and obstacle clearance, retain positive aircraft control, demonstrate effective cockpit management for precision navigation, utilize proper terminology, lead retains situational awareness of wingman position and drives section appropriately, wingman retains situational awareness during navigation, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, remain oriented on zone, and land within two rotors of intended point of landing.

External Syllabus Support. WST/APT/operable TEN.

NS-251 1.5 R 1 CH-46E A NS

Goal. Review NS single aircraft CALs in HLL.

Requirement

Discuss:
- CRM during NS CAL operations.
- Crew comfort level during NS CAL operations.
- NS failures at low altitudes.
- Light level planning requirements.
- Inadvertent IMC.
- NS preflight/set up.
- LZ brief and evaluation.

Review: Single aircraft CALs in HLL.

Performance Standards. Pilots shall maintain effective NS/instrument scan, recognize proper closure rate with intended point of landing, retain positive aircraft control, demonstrate effective cockpit management, utilize proper terminology, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, remain oriented on zone, and land within two rotors of intended point of landing.

Prerequisite. SNS-250.

External Syllabus Support. NS compatible CAL zones.

NS-252 1.5 2 CH-46E A NS

Goal. Conduct NS formation flight in HLL.

Requirement

Discuss:
- CRM during NS formation operations.
- NS formation techniques.
- Aircraft lighting during NS formation.
- Inadvertent IMC.
- NS combat cruise.
- NS failures during formation flight.

Introduce: NS formation flight (e.g., turn pattern).

Review: FORM-231, CNCS employment if available, turn patterns and break up/rendezvous.

Performance Standards. Pilots shall maintain effective NS/instrument scan, ensure effective CRM for formation and obstacle clearance, recognize proper closure rate with intended point of landing, retain positive aircraft control, demonstrate effective cockpit management, utilize proper terminology, lead retains situational awareness of wingman position and drives section appropriately, wingman retains situational awareness during flight, and wingman maintains proper NS combat cruise position.

Prerequisite. FORM-231, NS-251.

NS-253 1.5 R 2 CH-46E A NS

Goal. Conduct NS tactical section approaches, landings, and departures to a confined area in HLL.

Requirement

Discuss:
CRM during NS section CALs.
Section tactical approach, landings and departures to a confined area while using NS in HLL.
LZ brief and evaluation.

Introduce: Section tactical approach, landings and departures to a confined area while using NS in HLL.

Review: CAL-212, NS-251 and NS-252.

Performance Standards. Pilots shall maintain effective NS/instrument scan, ensure effective CRM for formation and obstacle clearance, recognize proper closure rate with intended point of landing, retain positive aircraft control, utilize proper terminology, lead retains situational awareness of wingman position and drives section appropriately, wingman retains situational awareness during flight, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, remain oriented on zone, and land within two rotors of intended point of landing.

Prerequisite. CAL-212, NS-252.

External Syllabus Support. NS compatible CAL zones that accommodate multiple aircraft.

NS-254 1.5 3+ ACFT A NS

Goal. Conduct NS division formation and CALs emphasizing the dash three position.

Requirement

Discuss:
CRM during NS formation and CALs.
NS division CAL techniques.
NS division formation techniques.
Inadvertent IMC on NS.
Obstacle clearance.
LZ brief and evaluation.

Introduce:
NS division formation.
NS division CALs.

Review: NS-252 and NS-253.

Performance Standards. Pilots shall maintain effective NS/instrument scan, ensure effective CRM for formation and obstacle clearance, recognize proper closure rate with intended point of landing, retain positive aircraft control, utilize proper terminology, lead retains situational awareness of wingman position and drives section appropriately, wingman retains situational awareness during flight, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, remain oriented on zone, and land within two rotors of intended point of landing.

Prerequisite. NS-253.

External Syllabus Support. NS compatible CAL zones that accommodate multiple aircraft.

NS-255 1.5 1 CH-46E A NS

Goal. Conduct NS TERF navigation.

Requirement

Discuss:
CRM during NS TERF navigation.
NS navigation techniques.
Use of onboard navigation systems.
Moon illumination/shadow effects on NS navigation.
NS low altitude emergencies.

Introduce:
NS TERF navigation.
Navigate a route below 200 feet AGL with at least 4 checkpoints and remain oriented within 500 meters of course line.

Review: TERF-243. Use of onboard navigation systems.

Performance Standards. Pilots shall plan and fly a route to a minimum of four checkpoints below 200 feet AGL, maintain effective NS/instrument scan, recognize proper closure rate with intended point of landing, remain oriented on route

within 500 meters, ensure effective CRM for navigation and obstacle clearance, retain positive aircraft control, demonstrate effective cockpit management for precision navigation, utilize proper terminology.

Prerequisite. TERF qualified and NS-251.

External Syllabus Support. Approved TERF route (special use airspace preferred).

NS-256 1.5 2 CH-46E A NS

Goal. Conduct NS TERF formation, navigation flight.

Requirement

Discuss:
- CRM in the NS TERF environment.
- NS TERF/formation techniques.
- NS HUD utilization.
- NS low altitude emergencies.

Introduce:
- NS TERF formation flight.
- NS HUD operation if available

Review: TERF-243 and NS-252.

Performance Standards. Pilots shall maintain effective NS/instrument scan, recognize proper closure rate with intended point of landing, ensure effective CRM for formation and obstacle clearance, retain positive aircraft control, utilize proper terminology, lead retains situational awareness of wingman position and drives section appropriately, wingman retains situational awareness during flight, employs NS combat cruise principles, plan and fly a route to a minimum of four checkpoints below 200 feet AGL, remain oriented on route within 500 meters, demonstrate effective cockpit management for precision navigation.

Prerequisite. TERF qualified, NS-252 and NS-255.

External Syllabus Support. Approved TERF route (special use airspace preferred).

NS-257 1.5 R 2 CH-46E A NS

Goal. Conduct NS TERF formation, navigation, and section CALs.

Requirement

Discuss:
- NS low-level emergencies.
- LZ brief/evaluation.

Review: NS-253, NS-256.

Performance Standards. Pilots shall navigate a route below 200 feet AGL with at least 4 checkpoints and remain oriented within 500 meters of course line, arrive at the final checkpoint within 2 minutes of the planned arrival time, maintain effective NS/instrument scan, recognize proper closure rate with intended point of landing, remain oriented on route within 500 meters, ensure effective CRM for navigation and obstacle clearance, retain positive aircraft control, demonstrate effective cockpit management for precision navigation, utilize proper terminology, lead retains situational awareness of wingman position and drives section appropriately, wingman retains situational awareness during navigation, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, remain oriented on zone, and land within 2 rotors of intended point of landing.

Prerequisite. NS-253 and 256.

External Syllabus Support. NS compatible LZs and approved TERF route (special use airspace preferred).

7. Air-to-Ground (AG)

a. Purpose. To develop CRM proficiency during AG.

b. Minimum Crew Requirements. P/CP/CC/AGO.

c. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

d. Flight and Simulator Event Training (1 Flight, 1.5 Hours)

AG-281	1.5	R 1+ CH-46E A

Goal. Introduce AG procedures.

Requirement

Discuss:
- CRM.
- Crew comfort levels.
- Weapons preflight.
- Types of ammunition.
- Standard weapons commands.
- Lost communication procedures.
- Visual signals.
- Weapons safety considerations, malfunctions/emergencies.
- Weapons conditions.
- Sectors/Fields of fire.
- Shadow gunnery techniques.
- Towed target (banner) techniques.
- Moving target techniques.

Introduce: AG.

Performance Standards. Pilots shall use proper weapon procedures and commands to direct AG, demonstrate understanding of weapons parameters and employment, demonstrate proper response to weapon malfunctions, demonstrate proper understanding of aircraft maneuvers in response to threat, demonstrate understanding of briefed ROE, demonstrate understanding of weapons conditions, fly weapons delivery profile in accordance with briefed parameters, and demonstrate understanding of weapons control within briefed fields of fire and sectors of fire.

Ordnance. 500 rounds of .50 cal, 2 smoke grenades.

Range Requirements. Appropriate aerial gunnery range equipped with multiple scored targets ranging from personnel to APC size.

8. Carrier Qualification (CQ)

a. Purpose. To qualify the PUI in day and NS FCLPs.

b. General. Refer to LHA/LPH/LHD NATOPS Manuals and NWP-42 for Shipboard Operations.

(1) An NSI is required for initial/refresher NS FCLP flights.

(2) Night CQ Requirements:

(a) For initial/Refresher/delinquent:

1 Five day FCLPs.

2 Five NS FCLPs.

(b) Pilots previously night CQ and proficient per paragraph 132.8b(2)(a) above shall complete the following to maintain proficiency:

1 Two day FCLPs.

2 Two NS FCLPs.

(3) CQ-293 may be flown under any light level condition. PUI must be NSQ for appropriate light level.

(4) Pilots shall discuss CRM as applicable to each event.

c. Minimum Crew Requirements

(1) CQ-291. P/CP/CC.

(2) CQ-293. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (2 Flights, 2.0 Hours / 1 Event, 2.0 Hours)

SCQ-290 2.0 1 WST S (N)

Goal. Introduce day, night unaided, and NS CQ.

Requirement

Discuss:
CRM during shipboard landings.
Communications used in shipboard environment.
LSE signals.
Emergency procedures over water (water landings/ ditching).
Aircraft lighting used during shipboard operations.
Aviation Capable/Air Capable class ships.
Basic instrument scan.

Introduce: Day, night, and NS CQ patterns, approaches, landings, and emergency procedures peculiar to shipboard operations.

Review: Instrument procedures.

Performance Standards. Pilots shall demonstrate proper shipboard and aircraft lighting procedures, maintain effective instrument/NS scan, execute proper cockpit switchology, fly established CQ pattern demonstrating understanding of proper upwind, crosswind and interval parameters, fly 300 feet/80 kt pattern within 50 feet and 10 kts, maintain proper closure and bearing with intended point of landing, maintain proper orientation to LSE, respond promptly and safely to altitude and drift calls from aircrew, remain oriented on assigned landing spot, and land within 1 meter of intended point of landing.

External Syllabus Support. FMC WST/APT/TEN.

CQ-291 1.0 1 CH-46E A

Goal. Conduct day FCLPs.

Requirement

Discuss:
CRM during shipboard landings.
Communications used during shipboard landings.
LSE signals.
Water landings/ditching.
Aircraft lighting used during shipboard landings.
Basic instrument scan.

Introduce: Day FCLP patterns, approaches, landings, and emergency procedures peculiar to shipboard operations.

Performance Standards. Pilots shall demonstrate proper shipboard communications and aircraft lighting procedures, maintain effective instrument scan, execute proper cockpit switchology, fly established CQ pattern demonstrating understanding of proper upwind, crosswind and interval

parameters, fly 300 feet/80 kt pattern within 50 feet and 10 kts, maintain proper closure and bearing with intended point of landing, respond promptly and safely to altitude and drift calls from aircrew, remain oriented on assigned landing spot, and land within 1 meter of intended point of landing.

Prerequisite. SCQ-290.

External Syllabus Support. Approved FCLP pad.

CQ-293 1.0 1 CH-46E A NS

Goal. Conduct NS FCLPs.

Requirement

Discuss:
CRM during NS shipboard landings.
Crew comfort levels during NS shipboard landings.
Situational awareness during NS shipboard landings.
Emergency procedures (aircraft and NS).
Aircraft and deck lighting during NS shipboard operations.
Basic instrument scan.

Introduce: NS FCLPs.

Review: CQ-291.

Performance Standards. Pilots shall demonstrate proper shipboard communications and aircraft lighting procedures, maintain effective instrument/NS scan, execute proper cockpit switchology, fly established CQ pattern demonstrating understanding of proper upwind, crosswind and interval parameters, fly 300 feet/80 kt pattern within 50 feet and 10 kts, maintain proper closure and bearing with intended point of landing, respond promptly and safely to altitude and drift calls from aircrew, remain oriented on assigned landing spot, and land within 1 meter of intended point of landing.

Prerequisite. CQ-291.

External Syllabus Support. NS capable FCLP pad.

133. CORE SKILL ADVANCED PHASE

1. Carrier Qualification (CQ)

a. Purpose. To train/refresh the PUI in day and NS shipboard landings.

b. General

(1) Refer to LHA/LPH/LHD NATOPS Manuals and NWP-42 for air capable ship operations.

(2) Night CQ Requirements:

(a) For initial/Refresher/delinquent:

1 Five day CQs.

2 Five NS CQs.

(b) Pilots previously night CQ and proficient per paragraph 133.1.b.(2)(a) above shall complete the following to maintain proficiency:

1 Two day CQs.

2 Two NS CQs.

(3) CQ-301 shall be flown under HLL conditions for initial qualification. NSI required for initial/refresher NS flights. Currency and requalification flights may be flown under any light level condition.

(4) Pilot is CQ upon completion of CQ-300, CQ-301.

(5) Pilots are authorized to carry passengers during daylight hours when proficient in CQ-300.

(6) Pilots are authorized to carry passengers at night with NS when proficient and current in CQ-301 and NSQ for the appropriate light level (IAW Program Manual MCO 3500.14 paragraph 402.3b).

(7) Pilots shall discuss CRM as applicable to each event.

c. Minimum Crew Requirements

(1) CQ-300. P/CP/CC.

(2) CQ-301. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

(1) Review appropriate chapters of NWP-42 and the LPH/LHA/LHD NATOPS Manual.

(2) Review Ship's Facilities Resume.

e. Flight and Simulator Event Training (2 Flights, 2.0 Hours)

CQ-300	1.0	1 CH-46E A

Goal. Conduct day CQ.

Requirement

Discuss:
CRM during shipboard landings.
Communications used during shipboard landings.
LSE signals.
Water landings/ditching.
Aircraft lighting used during shipboard landings.
Rotor engagement/disengagement.
Launch/recovery wind envelopes.

Basic instrument scan.

Introduce: Day CQ patterns, approaches, landings, and emergency procedures peculiar to shipboard operations.

Review: CQ-291.

Performance Standards. Pilots shall fly 300 feet/80 kt pattern within 25 feet and 10 kts, fly established CQ pattern demonstrating understanding of proper upwind, crosswind and interval parameters, maintain proper orientation to LSE, respond promptly and safely to altitude and drift calls from aircrew, remain oriented on assigned landing spot, land within 1 meter of intended point of landing, utilize solid instrument scan, recognize proper closure with intended point of landing, demonstrate understanding of shipboard communications and aircraft lighting.

Prerequisite. CQ-291 (if available).

External Support. Air capable ship deck.

CQ-301 1.0 R 1 CH-46E A NS

Goal. Conduct NS CQ.

Requirement

Discuss:
CRM during shipboard landings.
Communications used during shipboard landings.
LSE signals.
Water landings/ditching.
Aircraft lighting used during shipboard landings.
Rotor engagement/disengagement.
Launch/recovery wind envelopes.
Transition from instrument to NS scan.
Basic instrument scan.
NS scan/fixation.

Introduce: NS CQ patterns, approaches, landings, and emergency procedures peculiar to NS shipboard operations.

Review: CQ-293, CQ-300.

Performance Standards. Pilots shall fly 300 feet/80 kt pattern within 25 feet and 10 kts, fly established CQ pattern demonstrating understanding of proper upwind, crosswind and interval parameters, maintain proper orientation to LSE, respond promptly and safely to altitude and drift calls from aircrew, remain oriented on assigned landing spot, land within 1 meter of intended point of landing, maintain effective instrument and NS scan, recognize proper closure with intended point of landing, demonstrate proper shipboard communications and aircraft lighting.

Prerequisite. CQ-293 (if available) and CQ-300.

External Support. NS capable ship deck.

2. NS Low Light Level (LLL)

a. Purpose. Qualify the PUI in NS LLL operations.

b. General. Successful completion of NS-314 constitutes Night Systems Qualified (NSQ). A qualification letter signed by the commanding officer stating the pilot is NSQ is required to be qualified to carry troops under any ambient light level condition. The original shall be placed in the pilot's NATOPS jacket and a copy in his APR with a corresponding logbook entry.

c. Prerequisites

(a) NSQ HLL.

(b) Initial/Refresher flights require an NSI.

(c) Pilots shall fly all events in light levels less than .0022 lux.

d. Minimum Crew Requirements. P/CP/CC/AGO.

e. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

f. Flight and Simulator Event (4 Flights, 6.0 Hours/1 Simulator Event, 2.0 Hours)

SNS-310	2.0	WSTS NS

Goal. Conduct NS LLL TERF formation, navigation, single, section and division CALs.

Requirement

Discuss:
Crew comfort level during NS LLL operations.
NS LLL considerations.
NS LLL CAL techniques.
Aircraft lighting considerations during NS LLL operations.
Low altitude emergencies.

Introduce: NS LLL CALs.

Review: SNS-250, NS HUD operations.

Performance Standards. Pilots shall fly a navigation route with at least 4 checkpoints, fly route below 200 feet AGL, remain oriented on route within 500 meters, arrive at final checkpoint within 1 minute of planned arrival time, maintain effective instrument and NS scan, recognize proper closure with intended point of landing, ensure effective CRM for navigation and obstacle clearance, retain positive aircraft control, demonstrate effective cockpit management for precision navigation, utilize proper terminology, lead retains situational awareness of wingman position and drives section

appropriately, wingman maintains situational awareness during navigation, TAC FORM maneuvers utilized properly to control flight, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on zone, land within 2 rotors of intended point of landing.

Prerequisite. SNS-250.

External Syllabus Support. NS capable WST/APT/TEN.

NS-311 1.5 R 1 CH-46E A NS

Goal. Introduce single aircraft NS LLL CALs.

Requirement

Discuss:
Crew comfort level during NS LLL operations.
NS LLL considerations.
NS LLL CAL techniques.
Aircraft lighting considerations during NS LLL operations.
Low altitude emergencies.

Introduce: NS LLL CALs.

Review: NS-251, NS HUD operations if available.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize proper closure with intended point of landing, remain oriented on zone, land within 2 rotors of intended point of landing, maintain effective instrument and NS scan.

Prerequisite. SNS-310.

External Syllabus Support. NS compatible CAL zone.

NS-312 1.5 R 2 CH-46E A NS

Goal. Introduce NS LLL formation and section CALs.

Requirement

Discuss:
CRM during NS LLL formation.
Crew comfort level during NS LLL formation operations.
NS LLL formation techniques.
External aircraft lighting considerations during NS LLL formation operations.

Introduce:
NS LLL formation.
NS LLL section CALs.

Review: NS-252 and NS-253.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize proper closure with intended point of landing, remain oriented on zone, land within 2 rotors of intended point of landing, maintain effective instrument and NS scan, maintain proper distance and bearing within 3-5 rotors, utilize formation principles of radius of turn, step-up/step-down, recognize proper closure rate with lead aircraft.

Prerequisite. NS-311.

External Syllabus Support. NS CAL zone.

NS-313 1.5 R 3+ACFT A NS

Goal. Conduct NS LLL formation and division CALs.

Requirement

Discuss:
CRM during NS LLL formation.
Crew comfort level during NS LLL formation operations.
NS LLL formation techniques.
External aircraft lighting considerations during NS (LLL) formation operations.

Introduce:
NS LLL division formation.
NS LLL division CALs.

Review: NS-254 and NS-312.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize proper closure with intended point of landing, remain oriented on zone, land within 2 rotors of intended point of landing, maintain effective instrument and NS scan, maintain proper distance and bearing for appropriate formation position, utilize formation principles of radius of turn, step-up/step-down, recognize proper closure rate with lead aircraft.

Prerequisite. NS-312.

External Syllabus Support. NS compatible CAL zone.

NS-314 1.5 R 2 CH-46E A NS

Goal. Conduct NS LLL TERF formation, navigation, and section CALs.

Requirement

Discuss:
CRM during NS LLL TERF navigation.

Crew comfort level during NS TERF operations.
NS navigation considerations under LLL conditions.
Use of onboard navigation systems.
Emergencies at low altitude.

Introduce: NS LLL TERF navigation.

Review: NS-257, NS-312, and use of onboard navigation systems (GPS as secondary source).

Performance Standards. Pilots shall fly a navigation route with at least four checkpoints, fly route below 200 feet AGL, remain oriented on route within 500 meters, arrive at final checkpoint within 1 minute of planned arrival time, maintain effective instrument and NS scan, recognize proper closure with intended point of landing, ensure effective CRM for navigation and obstacle clearance, retain positive aircraft control, demonstrate effective cockpit management for precision navigation, utilize proper terminology, lead retains situational awareness of wingman position and drives section appropriately, wingman maintains situational awareness during navigation, TAC FORM maneuvers utilized properly to control flight, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on zone, and land within 2 rotors of intended point of landing.

Prerequisite. NS-313.

External Syllabus Support. NS CAL zone, approved TERF route.

3. Air-to-Ground (AG)

a. Purpose. To develop CRM proficiency during NS aerial gunnery.

b. General

(1) Employ onboard weapons systems to conduct air-to-ground gunnery utilizing NS.

(2) Entire crew must be present for the brief.

(3) CRM as applicable.

c. Minimum Crew Requirements. P/CP/CC/AGO.

d. Prerequisites

(1) AG-281 and NS-251.

(2) NSI required if PUI is not NSQ for appropriate light level.

e. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

f. Flight and Simulator Event Training (1 Flight, 1.5 Hours)

AG-321 1.5 R 1+ CH-46E A NS

Goal. Introduce NS AG gunnery.

Requirement

Discuss:
CRM.
Crew comfort levels.
Weapon preflight.
Standard weapons commands.
Lost communication procedures.
Visual signals.
Weapon malfunctions/stoppage.
LASER employment and considerations/safety precautions.
Sectors of fire/fields of fire.
Shadow gunnery techniques.
Moving target techniques.
Weapon conditions.

Introduce:
NS aerial gunnery.
Effects of ordnance, expendables, pyrotechnics on NS.

Review: AG-281.

Performance Standards. Pilots shall maintain effective NS scan, utilize solid instrument scan, recognize proper closure with intended point of landing, demonstrate understanding of NS considerations WRT weapons employment, use proper gun procedures and commands to direct aerial gunnery, demonstrate understanding of weapons parameters, demonstrate proper response to weapon malfunctions, demonstrate proper understanding of aircraft maneuvers in response to threat (demonstrates understanding of briefed ROE), demonstrate understanding of weapons conditions, fly weapons delivery profile IAW briefed parameters, demonstrate understanding of gun control within briefed fields of fire and sectors of fire.

Prerequisite. NS-251 and AG-281.

Ordnance. 500 rounds of .50 cal, expendables and others as available.

Range Requirements. Appropriate Laser authorized aerial gunnery range equipped with multiple scored targets ranging from personnel to APC size.

4. Ground Threat Reaction (GTR)

a. Purpose. To introduce and develop proficiency in using Aircraft Survivability Equipment (ASE), tactics, and on-board defensive weapon systems to evade ground-to-air threats.

b. General

(1) Conduct GTR-331 against simulated surface to air fires (smokey SAMS, MADSS, Malina/BARC, hand-held pyrotechnics, etc.) and 332 against threat emitters (e.g. SA-8, ZSU 23-4, etc.) and use ground based threat simulation.

(2) Refer to NTRP 3-22.4 Naval Aviation Technical Information Publication (NATIP) and the Air NTTP 3-22.3 for ASE operating procedures. Refer to Air NTTP 3-22.3 Appendix B for GTR training standards.

(3) .50 cal machine guns should be mounted for all GTR flights. M240 Ramp Fired Weapon (RFW) may be employed in accordance with NATOPS.

(4) Minimum altitude for GTR flights is 50 feet.

(5) Enlisted Aircrew instructors shall not have lookout duties during initial training events.

(6) All initial flights shall be conducted during the daytime and require a GTR-proficient WTI or DMI.

(7) All event participants shall attend the recommended academic training and flight brief. A walkthrough should be conducted.

(8) Prerequisites

(a) TERF qualified (STERF-240 for SGTR-330).

(b) FORM-231.

(c) When conducted at night, all aircrew shall be NSQ (for the appropriate light level).

c. Minimum Crew Requirements. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog and Air NTTP 3-22.3 Appendix B. Additional training should consist of:

(1) Current theater specific ROE training from a Staff Judge Advocate.

(2) Enemy situation to include threat systems and related tactics.

e. Flight and Simulator Event Training (2 Flights, 3.0 Hours/1 Simulator Event, 2.0 Hours)

SGTR-330	2.0	WST S

Goal. Introduce ground threat reactions.

Requirement

Discuss:
CRM/inter-flight coordination.
Crew comfort level.

Lookout doctrine.
Situational awareness.
Use of ALE-39/47, APR-39, ALQ-157, AAR-47 and Go/No-Go procedures.
Use of RADAR horizons, RADAR masking, maneuver, and chaff to defeat threat RADAR systems.
Use of terrain masking, maneuver, IR jammers, and flares to defeat threat IR missiles.
Tactical expendables.
Various threat signatures with emphasis on threat recognition.
Tactical employment of .50 cal weapon system/RFW against ground threats.
Aerial gunnery, Point of Origin (POO), ROE, PID, and engagement criteria.
Intra aircraft communication.

Introduce:
Use of all onboard ASE.
Tactics against AAA, IR SAMs, and RADAR SAMs.

Performance Standards. Pilots shall demonstrate proper operation of ASE, understanding and interpretation of APR/AAR indications, ability to break lock when tracked, effective flight maneuvering in response to threat, and proper ASE employment with regard to threat.

Prerequisite. SFORM-230.

External Syllabus Support. WST/APT, with operable TEN.

GTR-331 1.5 R 2 CH-46E A (NS)

Goal. Introduce ground threat reactions in a non-radar environment.

Requirement

Discuss:
CRM/inter-flight coordination.
Crew comfort level.
Lookout doctrine.
Situational awareness.
Use of ALE-39/47, APR-39, ALQ-157, AAR-47, and ASE Go/No-Go procedures.
Use of terrain masking, maneuver, IR jammers, and flares to defeat threat IR missiles.
Tactical expendables.
Various threat signatures with emphasis on threat recognition.
Tactical employment of .50 cal weapon system/RFW against ground threats.
Aerial gunnery, POO, ROE, PID, and engagement criteria.
Intra aircraft communication.

Introduce:
GTR against non-radar threat systems emphasizing use of all onboard ASE and defensive weapon systems.
Threat avoidance maneuvers and tactics to counter threat systems.
Appropriate evasive maneuvers when engaged by a non-radar ground based threat.

Review: SGTR-330.

Performance Standards. All aircrew shall demonstrate proper operation of ASE, understanding and interpretation of AAR indications, effective maneuvering in response to threat, and proper ASE employment with regard to the threat.

Prerequisite. FORM-231, SGTR-330.

Ordnance. 60 flares, 2 x .50 cal weapon systems, 400 rnds .50 cal, (RFW), (500 rnds 7.62mm).

Range Requirements. Live fire range and threat simulation devices (smokey SAMS, MADSS, Malina/BARC, hand-held pyrotechnics, etc.) with sufficient range space to employ and maneuver at least a division of aircraft.

GTR-332 1.5 R 2 CH-46E A (NS)

Goal. Introduce ground threat reactions in a radar environment.

Requirement

Discuss:
CRM/inter-flight coordination.
Crew comfort level.
Lookout doctrine.
Situational awareness.
Use of ALE-39/47, APR-39, ALQ-157, AAR-47, and ASE Go/No-Go procedures.
Use of RADAR horizons, RADAR masking, maneuver, and chaff to defeat threat RADAR systems.
Use of terrain masking, maneuver, and chaff to defeat threat radar missiles.
Tactical expendables.
Various threat signatures with emphasis on threat recognition.
Tactical employment of .50 cal weapon systems/RFW against ground threats.
Aerial gunnery, POO, ROE, PID, and engagement criteria.
Intra/inter aircraft communication.
Tactical formation maneuvering.

Introduce:
GTR against RADAR threat systems emphasizing use of all onboard ASE and defensive weapon systems.
Threat avoidance maneuvers and tactics to counter threat systems.

Appropriate evasive maneuvers when engaged by a ground based threat in a radar environment.

Review: FORM-231 and SGTR-330.

Performance Standards. All aircrew shall demonstrate proper operation of ASE, understanding and interpretation of APR indications, ability to break lock when tracked, effective maneuvering in response to threat, and proper ASE employment with regard to threat.

Prerequisite. FORM-231 and SGTR-330.

Ordnance. 40 chaff, 20 flares, 2 x .50 cal weapon systems, (RFW).

Range Requirements. EW range with functional EW emitter and threat simulation devices (e.g. SA-8, ZSU 23-4, smoke grenades or pyrotechnics, etc.) with sufficient range space to employ and maneuver at least a division of aircraft.

5. Mountain Area Training (MAT)

a. Purpose. To develop proficiency in MAT.

b. General

(1) Conduct training in mountainous terrain that emphasizes the unique challenges in a high altitude environment. This would include weather, wind, altitude, and slope/pinnacle landings.

(2) CRM as applicable to MAT operations.

c. Minimum Crew Requirements. P/CP/CC.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (1 Flight, 1.5 Hours/1 Simulator Event, 2.0 Hours)

SMAT-350 2.0 WST S

Goal. Conduct MAT.

Requirement

Discuss:
CRM in MAT.
Emergencies in mountainous terrain.
Wind and weather effects.
High altitude operations.
Slope landings.
Pinnacle landings.

Introduce:
Mountainous area operations.

Pinnacle landings.
Slope landings.
Landings and operations in valleys and canyons.
Crosswind landings.
Max gross operations.
Waveoff.

Review: SCAL-210.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on zone, land within 1/2 rotor of intended point of landing, demonstrate proper understanding of mountainous terrain and environmental considerations, demonstrate proper use of cyclic trim in landing phase, and demonstrate effective CRM.

Prerequisite. SCAL-210.

External Syllabus Support. Area that supports MAT.

MAT-351 1.5 R 1 CH-46E A

Goal. Conduct MAT.

Requirement

Discuss:
CRM in MAT.
Emergencies in mountainous terrain.
Wind and weather effects.
High altitude operations.
Slope landings.
Pinnacle landings.

Introduce:
Mountainous area operations.
Pinnacle landings.
Slope landings.
Landings and operations in valleys and canyons.
Crosswind landings.

Review: CAL-211 and SMAT-350.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on zone, land within 1/2 rotor of intended point of landing, demonstrate proper understanding of mountainous terrain and environmental considerations, demonstrate proper use of cyclic trim in landing phase, and demonstrate effective CRM.

Prerequisite. CAL-211.

External Syllabus Support. Area that supports MAT.

6. Helicopter Insertion/Extraction Techniques (HIE)

a. Purpose. To develop proficiency in HIE procedures.

b. General

(1) Pilot, copilot, crew chief, aerial observer, HRST master, and HRST safety observer shall brief together prior to commencing fastrope, rappelling, and SPIE.

(2) ICS cranials and gunner's belts are required for HRST.

(3) CRM as applicable to HIE operations.

(4) Prerequisite. Aircrew must be NSQ (appropriate light level) for flights conducted on NS.

(5) External Syllabus Support. HRST master and safety observer.

c. Minimum Crew Requirements

(1) HIE-361. P/CP/CC.

(2) HIE-362. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (2 Flights, 2.0 Hours/1 Simulator Event, 2.0 Hours)

SHIE-360	2.0	WST/S

Goal. Introduce fastrope, SPIE rig, paraops, helocast, and rescue hoist ops.

Requirement

Discuss:
- HIGE/HOGE requirements.
- Voice communication/standard terminology.
- Current Force Order/Wing SOP.
- Emergency procedures.
- Tactical considerations for various HIE techniques.
- Fastrope, SPIE rig, paraops, helocast, and rescue hoist ops procedures.

Introduce:
- Skills involved for holding an extended high hover.
- Troop insertion and extraction via fastrope, SPIE rig, paraops, helocast, and rescue hoist ops.

Review: SEXT-220.

Performance Standards. Pilots shall execute HIE per local SOPs, fly pattern within 50 feet and 10 kts of briefed

altitude and airspeed, fly established pattern checkpoints, recognize proper closure to insertion point, remain oriented on insertion point, utilize solid instrument scan, demonstrate proper CRM/ voice commands, maintain SA of obstacle clearance,

demonstrate ability to hold extended high hover, demonstrate understanding of HOGE requirements.

External Syllabus Support. WST/APT.

HIE-361 1.0 R 1 CH-46E A

Goal. Conduct fastrope and rappel procedures.

Requirement

Discuss:
HIGE/HOGE requirements.
CRM. Pilots, crew chief, HRST master and HRST safety observer brief together.
Voice communication/standard terminology.
ICS failure/hand and arm signals.
Current Force Order/Wing SOP.
Obstacle clearance/waveoff.
Rope specific emergency procedures.
Tactical considerations for fastrope/rappel operations.

Introduce:
Preflight of fastrope frame/rappel rigging.
Skills involved for holding an extended high hover.
Troop insertion via fastrope/rappelling.

Review: SHIE-360.

Performance Standards. Pilots shall demonstrate ability to insert ropers within 10 feet of intended insertion point, execute HIE per local SOPs, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize proper closure to insertion point, remain oriented on insertion point, utilize solid instrument scan, demonstrate proper crew resource management/voice commands, maintain SA of obstacle clearance, demonstrate ability to hold extended high hover, demonstrate understanding of HOGE requirements.

Prerequisite. CAL-211, EXT-221, SHIE-360.

External Syllabus Support. Applicable HIE support equipment.

HIE-362 1.0 1 CH-46E A NS

Goal. Introduce and develop proficiency in NS fastrope/rappel.

Requirement

Discuss:

CRM.
NS considerations during NS HIE operations.
Emergency procedures during NS HIE operations.

Introduce: NS fastrope/rappel procedures.
Review: HIE-361.

Performance Standards. Pilots shall demonstrate ability to insert ropers within 10 feet of intended insertion point, execute HIE per local SOPs, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize proper closure to insertion point, remain oriented on insertion point, maintain effective NS scan, utilize solid instrument scan, demonstrate proper CRM/voice commands, maintain SA of obstacle clearance, demonstrate ability to hold extended high hover, demonstrate understanding of HOGE requirements.

Prerequisite. HIE-361.

External Syllabus Support. Applicable HIE support equipment.

7. Tactics (Low and Medium Threat) (TAC)

a. Purpose. To introduce and develop proficiency in tactical planning, briefing and execution of assault support operations in the following mission areas in a low and medium threat environment. Use MCCRES Volume III, Section A standards.

(1) Helicopter Assault Operations (MPS 3A.4).

(2) Noncombatant Evacuation Operations (NEO) (MPS 3A.7).

(3) Raid (MPS 3A.8).

(4) Security/Reinforcement (MPS 3A.9).

(5) Reconnaissance Patrol/Reaction Force Operations (MPS 3A.10).

(6) Medical Evacuation (MPS 3A.1).

(7) Tactical Recovery of Aircraft, Equipment, and Personnel (TRAP) (MPS 3A.12).

b. General

(1) Utilizing a low to medium threat scenario, the PUI should assist in planning and briefing the mission. The AMC/flight leader should delegate planning and briefing responsibilities to PUIs.

(2) Squadron ordnance shall mount .50 caliber machine guns for all tactical flights.

(3) Pilots shall discuss CRM as applicable to each event.

(4) A WTI/flight leader should instruct initial STAC-373 event for PUI.

c. Minimum Crew Requirement. P/CP/CC/AGO for all aircraft events.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (4 Flights, 6.0 Hours/2 Simulator Events, 4.0 Hours)

STAC-370 2.0 WST S (NS)

Goal. Conduct day or NS assault support operation in a low threat environment per MCCRES Volume III, Section A.

Requirement

Discuss:
Tactical planning, briefing, and execution.
Use of onboard ASE during the mission.
CRM during the ingress, objective area, and egress phases of the mission.
Rules of engagement as they apply to the mission.
Tactics used in a low threat environment.
Use of onboard navigation systems.
NS considerations with multiple aircraft aerial gunnery.

Introduce:
Tactical planning, briefing, execution, and use of precision navigation systems.
PUI will assist in planning and conducting the tactical brief.
Tactical conduct of assigned tasks from the mission statement, emphasizing tactical formations and approaches as contained in the Air NTTP 3-22.1 and Air NTTP 3-22.3 Tactical Employment Guides.
Radio procedures and discipline consistent with EMCON conditions.
DASC control.
Approach and retirement routes.
Air control points.
Escort tactics.

Performance Standards. Pilots shall remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, demonstrate proper use of tactical formations, demonstrate situational awareness of other aircraft through all phases of flight, flight leadership control, demonstrate proper understanding of C4I utilization to facilitate execution and information flow, demonstrate appropriate respect for threat from planning through execution, demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment, demonstrate proper understanding of escort considerations, demonstrate proper understanding of secure and active communications, demonstrate understanding of FSCM utilization, demonstrate understanding

of contingency considerations.
External Syllabus Support. WST/APT, operable TEN and ASE.

TAC-371 1.5 2+ ACFT A

Goal. Conduct an assault support operation in a low threat environment IAW MCCRES Volume III, Section A MPS 3A.4.

Requirement

Discuss:
Tactical planning, briefing, and execution.
Use of onboard ASE during the mission.
CRM during the ingress, objective area, and egress phases of the mission.
Rules of engagement as they apply to the mission.
Tactics used in a low threat environment.
Use of onboard navigation systems.

Introduce:
Tactical planning, briefing, execution, and use of precision navigation systems.
PUI will assist in planning and conducting the tactical brief.
Tactical conduct of assigned tasks from the mission statement, emphasizing tactical formations and approaches as contained in the Air NTTP 3-22.1 and Air NTTP 3-22.3 Tactical Employment Guides.
Radio procedures and discipline consistent with EMCON conditions.
DASC control.
Approach and retirement routes.
Air control points.
Escort tactics.

Performance Standards. Pilots shall remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, demonstrate proper use of tactical formations, demonstrate situational awareness of other aircraft through all phases of flight, flight leadership control, demonstrate proper understanding of C4I utilization to facilitate execution and information flow, demonstrate appropriate respect for threat from planning through execution, demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment, demonstrate proper understanding of escort considerations, demonstrate proper understanding of secure and active communications, demonstrate understanding of FSCM utilization, demonstrate understanding of contingency considerations.

Prerequisites. CAL-212, STAC-370 and TERFQ.

Ordnance. Optional.

Range Requirements. Authorized TERF area, CAL site, (special

use airspace with live fire range preferred). Appropriate aerial gunnery range equipped with multiple scored static/moving targets, ranging from personnel to APC size.

TAC-372 1.5 2+ ACFT A NS

Goal. Conduct an NS assault support operation in a low threat environment IAW MCCRES Volume III, Section A, MPS 3A.4.

Requirement

Discuss:
- Tactical planning, briefing, and execution.
- Use of onboard ASE during the mission.
- CRM during the ingress, objective area, and egress phases of the mission.
- Rules of engagement as they apply to the mission.
- Tactics used in a low threat environment.
- Use of precision navigation systems.
- Ordnance effects on NS.
- Laser aiming devices.

Introduce:
- Tactical planning, briefing, execution, and use of onboard navigation systems.
- PUI will assist in planning and conducting the tactical brief.
- Tactical conduct of assigned tasks from the mission statement, emphasizing tactical formations and approaches as contained in the Air NTTP 3-22.1, Air NTTP 3-22.3, and Air NTTP 3-22.5.
- Radio procedures and discipline consistent with EMCON conditions.
- DASC control.
- Approach and retirement routes.
- Air control points.
- Escort tactics.

Review: GTR-331.

Performance Standards. Pilots shall remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, demonstrate proper use of tactical formations, demonstrate situational awareness of other aircraft through all phases of flight, flight leadership control, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery, demonstrate proper understanding of Laser employment, demonstrate proper understanding of C4I utilization to facilitate execution and information flow, demonstrate appropriate respect for threat from planning through execution, demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment, demonstrate proper understanding of escort considerations, demonstrate proper understanding of secure and active communications, demonstrate understanding of

FSCM utilization, demonstrate understanding of contingency considerations.

Prerequisites. TAC-371, NSQ for appropriate light level.

Ordnance. Optional.

Range Requirements. Authorized TERF area, CAL site, (special use airspace with live fire range preferred). Appropriate laser authorized aerial gunnery range equipped with multiple scored static/moving targets, ranging from personnel to APC size.

STAC-373 2.0 WST S (NS)

Goal. Conduct a day or NS assault support operation in a medium threat environment emphasizing MCCRES standards.

Requirement

Discuss:
- CRM during an assault support mission.
- Flight countertactics for air and ground threats.
- ASE utilization.
- Escort considerations.
- Fire support considerations and control measures.
- Control and terminology for onboard defensive weapons.
- EMCON procedures.
- NBC considerations.
- TERF considerations.

Introduce:
- Mission planning using a preplanned scenario and mission.
- Tactical formations and maneuvers.
- Navigation time and distance checks to meet a planned L-Hour.
- Multi-plane aerial gunnery in an objective area/LZ, if possible.

Performance Standards. Pilots shall remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, demonstrate proper use of tactical formations, demonstrate SA of other aircraft through all phases of flight, flight leadership control, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery, demonstrate proper understanding of C4I utilization to facilitate execution and information flow, demonstrate appropriate respect for threat from planning through execution, demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment, demonstrate proper understanding of escort considerations, demonstrate proper understanding of secure and active communications, demonstrate understanding of FSCM utilization, demonstrate understanding of contingency

considerations.
Prerequisite. STAC-370.

External Syllabus Support. WST/APT/operable TEN and ASE.

TAC-374 1.5 2+ ACFT A

Goal. Conduct a day assault support mission in a medium threat environment emphasizing MCCRES standards.

Requirement

Discuss:
CRM during an assault support mission.
Flight countertactics for air and ground threats.
ASE utilization.
Escort considerations.
Fire support considerations and control measures.
Control and terminology for onboard defensive weapons.
EMCON procedures.
NBC considerations.
TERF considerations.

Introduce:
Mission planning using a preplanned scenario and mission.
Tactical formations and maneuvers.
Navigation time and distance checks to meet a planned L-Hour.
Multi-plane aerial gunnery in an objective area/LZ, if possible.
Escort aircraft utilization, if available.

Performance Standards. Pilots shall remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, demonstrate proper use of tactical formations, demonstrate situational awareness of other aircraft through all phases of flight, flight leadership control, demonstrate proper understanding of C4I utilization to facilitate execution and information flow, demonstrate appropriate respect for threat from planning through execution, demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment, demonstrate proper understanding of escort considerations, demonstrate proper understanding of secure and active communications, demonstrate understanding of FSCM utilization, demonstrate understanding of contingency considerations.

Prerequisites. STAC-373.

Ordnance. 20 chaff, 40 flares, .50 cal optional.

Range Requirements. TERF area, CAL site, (special use airspace with live fire and ground emitter capable range preferred). Appropriate aerial gunnery range equipped with multiple scored static/moving targets, ranging from personnel

to APC size.

TAC-375 1.5 R 2+ ACFT A NS

Goal. Conduct an assault support mission in a medium threat environment on NS IAW MCCRES Volume III, Section A, MPS 3A.16 Night Operations.

Requirement

Discuss:
CRM conducting a NS mission.
Escort considerations at night.
Fire support considerations at night.
NS mission briefing.
NS considerations during tactical missions.
Precision navigation systems.
ASE utilization for night missions.
NBC considerations.
TERF considerations.

Introduce:
Tactical assault support mission at night using NS.
Escort aircraft utilization, if available.
Multi-aircraft NS aerial gunnery in an objective area if possible.

Performance Standards. Pilots shall remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, proper use of tactical formations, demonstrate SA of other aircraft through all phases of flight, flight leadership control, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery, proper understanding of laser employment, proper understanding of C4I utilization to facilitate execution and information flow, demonstrate appropriate respect for threat from planning through execution, understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment, proper understanding of escort considerations, proper understanding of secure and active communications, understanding of FSCM utilization, and understanding of contingency considerations.

Prerequisites. TAC-374.

Ordnance. 20 chaff, 40 flares, .50 cal optional.

Range Requirements. TERF area, CAL site, (special use airspace with live fire and ground emitter capable range preferred). Appropriate laser authorized aerial gunnery range equipped with multiple scored static/moving targets, ranging from personnel to APC size.

8. External Cargo Operations (EXT)

a. Purpose. To conduct NS external cargo operations.

b. General

(1) CRM applicable to external cargo operations.

(2) NSI required for initial/Refresher SEXT-390, EXT-392. Aircrew shall be NSQ for the appropriate light level.

c. Minimum Crew Requirements. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (1 Flight, 1.5 Hours/1 Simulator Event, 2.0 Hours)

SEXT-390 2.0 WST S (NS)

Goal. To conduct external operations in the TERF and/or NS environment.

Requirement

Discuss:
Emergency procedures during TERF external operations.
Limitations on power available, speed, maneuverability and altitude during TERF external operations.
LZ lighting for NS external operations.
Common terminology for NS external operations.
Aircraft and NS emergencies.

Introduce:
Fly a TERF route with a minimum of 4 checkpoints in the contour profile while carrying an external load.
External load operations to a confined area while using NS in an environment. Complete a minimum of 5 hookup/drops.

Review: SEXT-220, STERF-240 and SNS-250 if applicable.

Performance Standards. Pilot shallproperly respond to crew positioning calls, place load within 5 meters of intended point, recognize closure/descent rates, maintain briefed clearance below load, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, maintain effective NS scan, utilize solid instrument scan, utilize proper CRM, demonstrate proper voice commands, maintain SA of obstacle clearance, demonstrate ability to hold extended hover, demonstrate understanding of load computation and HIGE/HOGE requirements.

Prerequisites. SEXT-220, STERF-240 and SNS-250 if applicable.

External Syllabus Support. External capable WST/APT.

EXT-392 1.5 R 1 CH-46E A NS

Goal. Conduct NS external cargo operations to a confined

area.
Requirement

Discuss: CRM during external operations.

Introduce: External load operations to a confined area in an NS environment. Complete a minimum of 5 hookup/drops.

Review: SEXT-390, EXT-221, and NS-251.

Performance Standards. Pilots shall properly respond to crew positioning calls, place load within 5 meters of intended point, recognize closure/ descent rates, maintain briefed clearance below load, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, maintain effective instrument and NS scan, utilize proper CRM, demonstrate proper voice commands, maintain SA of obstacle clearance, demonstrate ability to hold extended hover, demonstrate understanding of load computation and HIGE/HOGE requirements.

Prerequisites. EXT-221.

External Syllabus Support. Single-point load (1000-4000 Pounds preferred), HST, confined area landing zone.

134. CORE SKILL PLUS PHASE

1. Tactics (High Threat Environment) (TAC)

a. Purpose. To develop proficiency in tactical planning, briefing and execution of assault support operations in the following mission areas in a high threat environment. Use MCCRES Volume III, Section A, Standards.

(1) Helicopter Assault Operation [MPS 3A.4].

(2) Noncombatant Evacuation Operation (NEO) [MPS 3A.7].

(3) Raid [MPS 3A.8].

(4) Security/Reinforcement [MPS 3A.9].

(5) Reconnaissance Patrol/Reaction Force Operation [3A.10].

(6) Medical Evacuation [MPS 3A.1].

(7) Tactical Recovery of Aircraft, Equipment, and Personnel (TRAP) [MPS 3A.12].

b. General

(1) Utilizing a high threat scenario, the PUI should assist in planning and briefing the mission. The AMC/flight leader should delegate planning and briefing responsibilities to PUIs.

(2) Squadron ordnance shall mount .50 caliber machine guns for all tactical flights.

c. Minimum Crew Requirement

(1) STAC-400. A flight leader should instruct PUI.

(2) TAC-401/402. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (2 Flights, 3.0 Hours/1 Simulator Event, 2.0 Hours)

STAC-400 2.0 WST S (NS)

Goal. Conduct a day or NS assault support mission in a high threat environment using MCCRES standards; incorporate AG and GTR concepts and skills.

Requirement

Discuss:
CRM/crew comfort level.
ASE operations and secure voice capability.
NBC considerations.
Planning based on METT.
Aerial gunnery procedures.
Helicopter Operation Planning Checklist and Mission Briefing Guide as contained in the Air NTTP 3-22.3.
NS considerations if flown at night.
TERF considerations.

PUI will plan and execute an assault support mission from a mission statement using MCCRES standards in a high threat environment. The PUI will fly the mission at TERF altitudes. Use escort aircraft (fixed-wing and/or helicopter) if available. Use aggressor aircraft if available. Incorporate the firing of .50 cal machine guns.

Introduce:
ASE and secure voice.
Navigation, timing, formation, defensive weaponry, communication discipline, authentication procedures, escort utilization, and weapons control procedures.

Review: STAC-373.

Performance Standards. Pilots shall perform per Air NTTP 3-22.1/Air NTTP 3-22.3/Air NTTP 3-22.5 as appropriate. Reference appropriate mission task within HMM and MEU(SOC) MPS (these standards are located on USMC doctrinal web page), remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, demonstrate proper use of tactical formations, demonstrate SA through all phases of flight of other aircraft within flight, flight leadership control,

demonstrate proper understanding of C4I utilization to facilitate execution and information flow, demonstrate appropriate respect for threat from planning through execution, demonstrate understanding of aircraft maneuver WRT threat response in concert with proper aerial gunnery employment, demonstrate proper understanding of escort considerations, proper understanding of secure and active communications, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery, understanding of FSCM utilization, demonstrate understanding of contingency considerations.

Prerequisites. STAC-373.

External Syllabus Support. FMC WST/APT/TEN/ASE/Systems.

TAC-401 1.5 2+ ACFT A

Goal. Conduct a day assault support mission in a high threat environment using MCCRES standards; incorporate AG and GTR concepts and skills.

Requirement

Discuss:
- CRM/crew comfort level.
- ASE operations and secure voice capability.
- NBC considerations.
- Planning based on METT.
- Aerial gunnery procedures.
- Helicopter Operation Planning Checklist, and Mission Briefing Guide as contained in the Air NTTP 3-22.3.
- TERF considerations.

PUI will assist in planning and execute an assault support mission from a mission statement using MCCRES standards in a high threat environment. The PUI will fly the mission at TERF altitudes. Use escort aircraft (fixed-wing and/or helicopter) if available. Use aggressor aircraft if available. Incorporate the firing of .50 caliber machine guns.

Introduce:
- ASE and secure voice.
- Navigation, timing, formation, defensive weaponry, communication discipline, authentication procedures, escort utilization, and weapons control procedures.

Review: TAC-374.

Performance Standards. Pilots shall remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, demonstrate proper use of tactical formations and SA through all phases of flight of other aircraft within flight, flight leadership control, demonstrate appropriate respect for threat from planning through execution, understanding of aircraft

maneuver WRT threat response in concert with proper aerial gunnery employment, demonstrate proper understanding of event-driven versus time-driven mission execution, proper understanding of C4I utilization to facilitate execution and information flow, demonstrate proper understanding of escort considerations, proper understanding of secure and active communications, laser employment, proper understanding of contingency requirements, understanding of FSCM utilization and contingency considerations.

Prerequisites. GTR-332, TAC-374, and STAC-400.

Ordnance. 20 chaff and 40 flares, 500 rounds .50 cal.

Range Requirements. TERF area, CAL site, (special use airspace with live fire and ground emitter capable range preferred). Appropriate aerial gunnery range equipped with multiple scored static/moving targets, ranging from personnel to APC size.

External Syllabus Support. (As available), FW/RW escort/CAS assets, FW/RW adversaries.

TAC-402 1.5 R 2+ ACFT A NS

Goal. Conduct an assault support mission in a high threat environment on NS per MCCRES Volume III, Section A, MPS 3A.16 Night Operations.

Requirement

In addition to the TAC-401 discussion items, discuss NS operational considerations.

Execute a NS mission similar to TAC-401. The PUI will fly the mission at TERF altitudes.

Emphasize navigation, timing, formation, communication discipline, authentication procedures, escort utilization, and weapons control procedures.

Performance Standards. Pilots shall remain oriented within 500 meters, arrive at LZ or coordinated checkpoint within 1 minute of briefed plan, land at intended point of landing within 50 meters, demonstrate proper employment of ASE, demonstrate proper use of tactical formations, demonstrate SA through all phases of flight of other aircraft within flight, flight leadership control, demonstrate appropriate respect for threat from planning through execution, understanding of aircraft maneuver WRT threat response in concert with proper aerial gunnery employment, demonstrate proper understanding of event-driven versus time-driven mission execution, proper understanding of C4I utilization to facilitate execution and information flow, proper understanding of escort considerations, proper understanding of secure and active communications, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery, proper

understanding of laser employment and contingency requirements, demonstrate understanding of FSCM utilization, and understanding of contingency considerations.

Prerequisites. TAC-375 and TAC-401, NSQ for appropriate light level.

Ordnance. 20 chaff and 40 flares, 500 rounds .50 cal.

Range Requirements. TERF area, CAL site, (special use airspace with live fire and ground emitter capable range preferred). Appropriate aerial gunnery range equipped with multiple scored static/moving targets, ranging from personnel to APC size.

External Syllabus Support. (As available) FW/RW escort/CAS assets, FW/RW adversaries, C4I integration.

2. Confined Area Landings (CAL)

a. Purpose. To develop proficiency in takeoffs and landings in a confined area.

b. General. Pilots will find maneuver descriptions in the NATOPS Flight Manual. Pilots shall discuss CRM as applicable to each event.

c. Minimum Crew Requirements. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (1 Flight, 1.5 Hours)

CAL-413 1.5 R 1 CH-46E A N*

Goal. Introduce night unaided CALs.

Requirement

Discuss/Introduce:
- CRM.
- Crew comfort levels.
- Night fixation.
- Night CAL takeoffs, approaches, and landings to various unlighted CAL zones.
- Use of landing and searchlights.
- LZ brief/evaluation.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure rate to landing point, remain oriented in zone, demonstrate power management, maintain safe obstacle clearance, and land within two rotors of intended point of landing.

Prerequisite. FAM-201, CAL-211.

External Syllabus Support. CAL zones.

3. External Cargo Operations (EXT)

a. Purpose. To conduct TERF external cargo operations.

b. General

(1) CRM applicable to external cargo operations.

(2) TERFI required for initial EXT-420.

c. Minimum Crew Requirements. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (1 Flight, 1.5 Hours)

EXT-420 1.5 R 1 CH-46E A

Goal. Conduct TERF external cargo operations to a confined area.

Requirement

Discuss: CRM during TERF external evolutions.

Introduce: External load operations to a confined area in a TERF environment. Complete a minimum of 5 hookup/drops.

Review: SEXT-390.

Performance Standards. Pilots shall properly respond to crew positioning calls, place load within 5 meters of intended point, recognize closure/ descent rates, fly route within 50 feet and 10 kts of briefed altitude and airspeed, utilize proper CRM, maintain SA of obstacle clearance, demonstrate ability to hold extended hover, demonstrate understanding of load computation and HIGE/ HOGE requirements, remain oriented on route within 200 meters, ensure effective CRM for navigation and obstacle clearance, demonstrate aircraft control in all phases of TERF regime, demonstrate effective cockpit management for precision navigation, utilize proper terminology and voice commands.

Prerequisite. EXT-221 and TERF-242.

External Syllabus Support. Load (1,000-4,000 pounds preferred), HST, authorized TERF route.

3. Nuclear, Biological, and Chemical (NBC)

a. Purpose. To develop proficiency with the NAVAIR approved NBC mask protective assembly during normal and tactical flight operations to include while wearing NS.

b. General

(1) When the event is conducted in the simulator both pilots should be masked. For the safe execution of initial NBC flights, 1 pilot and 1 aircrewman shall remain unmasked when conducted in the aircraft. On subsequent flights all aircrew may remain masked. When using the NAVAIR approved NBC mask during NS training flights, 1 pilot and 1 aircrewman shall remain unmasked due to the restricted field of view when using NS with the NAVAIR approved NBC mask.

(2) Initial NBC-432 training flight will be flown in HLL conditions. Proficiency flights may be flown in LLL.

(3) NSI required for all initial NS instructional flights.

(4) Aircrew shall be NSQ for the appropriate light level for proficiency flights.

c. Minimum Crew Requirements. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (2 Flights, 2.0 Hours/1 Simulator, 2.0 Hours)

SNBC-430 2.0 WST S (NS)

Goal. Develop flight skills in a simulated NBC environment. Conduct NS flight operations in a simulated NBC environment.

Requirement

Discuss:
- Aircrew protective ensemble.
- Nuclear effects to aircraft and aircrew.
- Chemical and Biological agents, their effects and aircrew protective measures.
- Decontamination considerations.
- CRM in an NBC environment, to include emergency procedures.
- Operational capabilities and limitations of protective masks.
- Physiological limitations and fatigue factors imposed by NBC protective equipment.
- Heliborne operations in a NBC environment.
- NS operations in a NBC environment.
- NS failures.
- Operational capabilities, limitations and compatibility of the NAVAIR approved NBC mask and NS.
- Emergency egress and ditching considerations.

Demonstrate:
- Donning, adjustments, and doffing of the NAVAIR approved NBC mask.
- Donning, adjustments and doffing of the NAVAIR approved NBC mask with NS (as applicable).

Introduce:
Ground operations.
Airfield pattern operations.
CALs.

Performance Standards. Pilots shall demonstrate ability to perform all ground operations with NAVAIR approved NBC mask, demonstrate ability to safely perform flight maneuvers with NAVAIR approved NBC mask, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on landing zone, land within 2 rotors of intended point of landing, maintain effective NS scan, and utilize solid instrument scan.

Prerequisite. SCAL-210.

External Syllabus Support. WST/APT.

NBC-431 1.0 R 1 CH-46E A

Goal. Conduct normal flight operations in a simulated NBC environment.

Requirement

Discuss:
Aircrew protective ensemble.
Nuclear effects to aircraft and aircrew.
Chemical and Biological agents, their effects and aircrew protective measures.
Decontamination considerations.
CRM in an NBC environment to include emergency procedures.
Operation capabilities and limitations of protective masks.
Physiological limitations and fatigue factors imposed by NBC protective equipment.
Heliborne operations in a NBC environment.

Demonstrate: Donning, adjustments and doffing of the NAVAIR approved NBC mask.

Introduce: (with NAVAIR approved NBC mask donned)
Ground operations.
Airfield pattern operations.
CALs.

Performance Standards. Pilots shall demonstrate ability to perform all ground operations with NAVAIR approved NBC mask, ability to safely perform flight maneuvers with NAVAIR approved NBC mask, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on landing zone, and land within 2 rotors of intended point of landing.

Prerequisites. CAL-211 and SNBC-430.

External Syllabus Support. CAL zone.

NBC-432 1.0 1 CH-46E A NS

Goal. Conduct NS flight operations in a simulated NBC environment.

Requirement

Discuss:
Heliborne operations at night in a NBC environment.
NS failures.
Operational capabilities, limitations and compatibility of the NAVAIR approved NBC mask and NS.
CRM in a NBC environment to include emergency procedures.
Demonstrate: Donning, adjustments, and doffing of the NAVAIR approved NBC mask with NS.

Introduce: (with NAVAIR approved NBC mask and NS donned)
Ground operations.
Airfield pattern operations.
CALs.

Performance Standards. Pilot shall maintain effective NS scan, utilize solid instrument scan, demonstrate ability to safely perform flight maneuvers with NAVAIR approved NBC mask, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on landing zone, and land within 2 rotors of intended point of landing.

Prerequisites. NBC-431, and NSQ HLL.

External Syllabus Support. NS compatible CAL zone.

4. Defensive Measures (DM)

a. Purpose. To develop proficiency in tactics and aerial DM used to evade enemy air-to-air threats.

b. General

(1) After successful completion of DM-441/442 PUI is DM qualified. A qualification letter signed by the commanding officer stating the pilot is DMQ is required to be placed in the aircrew APR and NATOPS jacket with appropriate logbook entry.

(2) Aircrew shall not conduct DM training unless the following requirements are met:

(a) A proficient DMI is present in the cockpit for all initial and refresher flights.

(b) The flight lead must be DM qualified and specifically brief all applicable DM training rules per the MAWTS-1 Helicopter DM Guide.

(c) The flight lead briefs any aggressor aircrew per T&R Program Manual, and covers training rules prior to each flight.

(3) For helicopter versus helicopter DM, the aggressor aircraft shall be a non-assault helicopter.

(4) .50 cal machine guns shall be mounted for all DM flights.

(5) Prerequisites

(a) TERF qualified. (STERF-240 FOR SDM-440)

(b) FORM-231.

c. Minimum Crew Requirement. P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (2 Flights, 3.0 hours/1 Simulator Event, 2.0 Hours)

SDM-440 2.0 WST S

Goal. Introduce section DM against a RW/FW aggressor.

Requirement

Discuss:
CRM/inter-flight coordination.
Crew comfort level.
Lookout doctrine.
Common terminology.
SA.
DM training rules.
Closure rate, radius of turn, and energy state.
Use of ALE-39/47, APR-39, ALQ-157, and AAR-47.
Use of .50 caliber machine gun.
DM against RW/FW aggressor.
Inter/intra aircraft communication.

Introduce: DM with a RW/FW aggressor per the MAWTS-1 Helicopter DM Guide.

Review: Helicopter performance characteristics and NATOPS limitations.

Performance Standards. Pilots shall meet learning objectives as established by MAWTS-1 DM Guide, demonstrate effective flight leadership and maneuvering in response to threat, maintain SA of wingman prior to and through evasive maneuvering, demonstrate proper ASE employment WRT threat, execute per DM training rules and NATOPS limits, demonstrate effective threat evaluation, appropriate threat response, effective inter and intra cockpit communication, understanding of mutual supportability, recognize closure rate, effectively utilize radius of turn, maintain energy state, utilize proper

terminology, effective 360 degree lookout doctrine, demonstrate proper response to aircrew threat calls, proper utilization of onboard defensive systems, understanding of threat weapons capabilities and appropriate flight response.

External Syllabus Support. FMC WST/APT/TEN/ASE/Systems.

DM-441 1.5 R 2 CH-46E A VS 1 RW AGGRESSOR

Goal. Introduce DM against a RW aggressor.

Requirement

Discuss:
- CRM/Inter-flight coordination.
- Crew comfort level.
- Lookout doctrine.
- Common terminology.
- SA.
- DM training rules.
- Closure rate, radius of turn, and energy state.
- RW weapons parameters and considerations.
- Use of ALE-39/47, APR-39, ALQ-157, and AAR-47.
- Use of onboard weapon systems.
- DM against RW aggressor.
- Inter/intra aircraft communication.

Introduce: Helicopter versus helicopter DM with an aggressor helicopter per the MAWTS-1 Helicopter DM Guide.

Review: Helicopter performance characteristics and NATOPS limitations.

Performance Standards. Pilots shall meet learning objectives as established by MAWTS-1 DM Guide, demonstrate effective flight leadership and maneuvering in response to threat, maintain SA of wingman prior to and through evasive maneuvering, proper ASE employment WRT threat, execute per DM training rules and NATOPS limits, demonstrate effective threat evaluation, appropriate threat response, effective inter and intra cockpit communication, understanding of mutual supportability, recognize closure rate, effectively utilize radius of turn, maintain energy state, utilize proper terminology, utilize effective 360 degree lookout doctrine, demonstrate proper response to aircrew threat calls, proper utilization of onboard defensive systems, understanding of threat weapons capabilities and appropriate flight response.

Ordnance. 20 chaff and 40 flares.

Range Requirements. Training area that supports use of expendables (if available).

External Syllabus Support. Special use airspace preffered, RW adversary (RW platform capable of fwd firing ordnance).

DM-442 1.5 R 2 CH-46E A VS 1 FW AGGRESSOR

Goal. Introduce DM against a FW aggressor.

Requirement

Discuss:
CRM/inter flight coordination.
Crew comfort level.
Lookout doctrine.
Common terminology.
SA.
Closure rate, radius of turn, and energy state.
FW weapons parameters and considerations.
Use of ALE-39/47, APR-39, ALQ-157, AAR-47.
DM training rules.
Use of .50 caliber machine gun.
DM against FW aggressor.
Inter/intra cockpit communication.

Introduce: Helicopter versus FW DM per the MAWTS-1 Helicopter DM Guide.

Performance Standards. Pilots shall meet learning objectives as established by MAWTS-1 DM Guide, demonstrate effective flight leadership and maneuvering in response to threat, maintain SA of wingman prior to and through evasive maneuvering, demonstrate proper ASE employment WRT threat, execute per DM training rules and NATOPS limits, demonstrate effective threat evaluation, appropriate threat response, effective inter and intra cockpit communication, understanding of mutual supportability, recognize closure rate, effectively utilize radius of turn, maintain energy state, utilize proper terminology, effective 360 degree lookout doctrine, demonstrate proper response to aircrew threat calls, proper utilization of onboard defensive systems, understanding of threat weapons capabilities and appropriate flight response.

Ordnance. 20 chaff and 40 flares.

Range Requirements. Training area that supports use of expendables (if available).

External Syllabus Support. Special use airspace preferred, FW adversary.

5. Mountain Area Training (MAT)

a. Purpose. To develop proficiency in mountainous terrain operations.

b. Minimum Crew Requirement

(1) MAT-450. P/CP/CC.

(2) MAT-451. P/CP/CC/AGO.

c. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

d. Flight and Simulator Event Training (2 Flights, 3.0 Hours)

MAT-450 1.5 R 2 CH-46E A

Goal. Introduce section aircraft operations in mountainous terrain.

Requirement

Discuss:
Section maneuvering during mountain area operations.
CAL selection in mountain areas.
CAL techniques in mountain areas.

Introduce:
Section operations in mountainous terrain.
Section CALs in mountainous terrain.

Review: CAL-212 and MAT-351.

Performance Standards. Pilots shall maintain SA of wingman requirements, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on zone, land within 1/2 rotor of intended point of landing, demonstrate proper understanding of mountainous terrain and environmental considerations, demonstrate proper use of cyclic trim in landing phase and effective CRM.

Prerequisite. CAL-212 and MAT-351.

External Syllabus Support. Operating area that supports MAT.

MAT-451 1.5 R 1 CH-46E A NS

Goal. Introduce NS mountainous area operations.

Requirement

Discuss:
CRM during mountainous terrain NS operations.
Visual illusions on NS in mountainous terrain.

Introduce:
NS mountainous terrain operations.
NS CALs in mountainous areas.

Review: NS-251.

Performance Standards. Pilots shall maintain effective NS scan, utilize solid instrument scan, recognize proper closure with intended point of landing, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, remain oriented on zone, land within 1/2

rotor of intended point of landing, demonstrate proper understanding of mountainous terrain and environmental considerations, proper use of cyclic trim in landing phase and effective CRM.

Prerequisites. MAT-351 and NSQ for the appropriate light level.

External Syllabus Support. Operating area that supports MAT.

6. Helicopter Insertion/Extraction Techniques (HIE)

a. Purpose. To develop proficiency in HIE procedures.

b. General

(1) Pilot, copilot, crew chief, aerial gunner/observer, HRST Master, and HRST Safety Observer shall brief together prior to commencing fastrope, rappelling, and SPIE.

(2) The Jump Master is responsible for the safe and proper rigging of the aircraft for conduct of aerial delivery (paradrops and cargo drops). Pilots shall preflight aircraft rigging.

(3) ICS cranials and gunner's belts are required for Jump Master/Cast Master.

(4) All initial/refresher events should be conducted as a day evolution.

(5) Prerequisite. Aircrew must be NSQ (appropriate light level) for flights conducted on NS.

(6) External Syllabus Support. HRST/Cast Master and Safety Observer.

c. Minimum Crew Requirements

(1) HIE-460 through 463(day). P/CP/CC.

(2) HIE-460 through 463(NS). P/CP/CC/AGO.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (4 Flights, 4.0 Hours)

HIE-460 1.0 R 1 CH-46E A (NS)

Goal. Introduce SPIE rig operations.

Requirement

Discuss:
HIGE/HOGE requirements.
CRM. Pilots, crew chief, HRST Master and HRST Safety Observer brief together.
Voice communication/standard terminology.

ICS failures/hand and arm signals.
Current Force Order/Wing SOP.
Obstacle clearance.
Emergency procedures.
Tactical considerations for SPIE operations.
SPIE extraction from water.

Introduce:
Inspection of SPIE Rig.
Skills involved for holding extended hover.
Troop insertion/extraction via SPIE Rig.

Performance Standards. Pilots shall demonstrate ability to properly inspect aircraft rigging, ability to insert ropers within 10 feet of intended point of insertion, execute HIE per local SOPs, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize proper closure to insertion point, remain oriented on insertion point, demonstrate understanding of emergency procedures requirements, utilize solid instrument scan, demonstrate proper CRM and voice commands, maintain SA of obstacle clearance, demonstrate ability to hold extended hover and understanding of HOGE requirements.

Prerequisite. EXT-221 (NS-392 for events conducted on NS).

External Syllabus Support. HRST and Safety Observers.

HIE-461 1.0 R 1 CH-46E A (NS)

Goal. Introduce day or NS aerial delivery procedures.

Requirement

Discuss:
CRM during aerial deliveries.
Voice communication/standard terminology during aerial deliveries.
Tactical considerations for aerial delivery of troops/cargo.
Proper rigging and preflight of equipment to be inserted by aerial delivery.
Paradrop procedures.
Sensor drop procedures.
ICS procedures.
Airspace coordination considerations.

Introduce: Insertion of troops/cargo or sensors by aerial delivery.

Performance Standards. Pilots shall demonstrate ability to properly inspect aircraft rigging, execute HIE per local SOPs, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, remain oriented on insertion point, maintain effective instrument and NS scan, demonstrate proper CRM and voice commands, maintain SA of obstacles.

Prerequisite. NSQ for the appropriate light level for events conducted on NS.

External Syllabus Support. Certified DZ, Jumpmaster and Safety Observers.

HIE-462 1.0 R 1 CH-46E A (NS)

Goal. Introduce helocast/soft duck procedures.

Requirement

Discuss:
CRM while performing helocast or soft duck over water.
Proper rigging and preflight of equipment to be inserted via helocast and soft duck.
Low altitude aircraft emergencies over water.
Ditching/water landing.
Salt encrustation/compressor stall.
Helocast/soft duck delivery altitudes and airspeeds.
Voice communications/standard terminology.
Tactical considerations for helocast/soft duck operations.

Introduce:
Insertion of troops and equipment by helocast or soft duck.
Preflight of aircraft, troops and equipment for helocast or soft duck.

Performance Standards. Pilots shall demonstrate ability to properly inspect rigging, execute HIE per local SOPs, fly pattern within 5 feet and 5 kts of briefed altitude and airspeed, fly established pattern checkpoints, remain oriented on insertion point, demonstrate proper CRM and voice commands, maintain SA of water and other obstacles.

Prerequisite. NSQ for the appropriate light level for events conducted on NS.

External Syllabus Support. Cast Master and Safety Observers.

HIE-463 1.0 R 1 CH-46E A (NS)

Goal. Introduce hoist and rescue procedures for overland/over water operations.

Requirement

Discuss:
CRM during rescue operations.
Considerations during rescue operations.
Emergency procedures during rescue operations.

Review:
Preflight of appropriate HIE equipment.
Internal/external hoisting operations.

Performance Standards. Pilots shall properly respond to crew positioning calls, exercise hoist operations within 2 meters of intended point, recognize closure/descent rates, maintain briefed clearance below load, fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, utilize proper CRM, demonstrate proper voice commands, maintain SA of obstacle clearance, demonstrate ability to hold extended hover and understanding of load computation and HIGE/HOGE requirements.

Prerequisite. EXT-221 (NSQ for the appropriate light level for events conducted on NS).

External Syllabus Support. Operational jungle penetrator or SAR basket (as available).

7. Carrier Qualification (CQ)

a. Purpose. To train/refresh the PUI in night unaided shipboard landings.

b. General

(1) Refer to LHA/LPH/LHD NATOPS Manuals and NWP-42 for air capable ship operations.

(2) CQ Requirements

(a) Requirements for initial/refresher/delinquent night unaided CQ events are:

1 Five day CQs.

2 Five night unaided CQs.

(b) Pilots CQ-491 proficient per paragraph 2(a) shall complete the following to maintain proficiency:

1 Two day CQs.

2 Two night unaided CQs.

(3) Pilots are authorized to carry passengers under all conditions when proficient in CQ-301 and CQ-491, NSQ for the appropriate light level, and IAW MCO P3500.14.

(4) Pilots shall discuss CRM as applicable to each event.

c. Minimum Crew Requirements. P/CP/CC.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

(1) Review appropriate chapters of NWP-42 and the LPH/LHA/LHD NATOPS Manual.

(2) Review Ship's Facilities Resume.

e. Flight and Simulator Event Training (2 Flights, 2.0 Hours)

CQ-490 1.0 1 CH-46E A N*

Goal. Conduct night unaided FCLPs.

Requirement

Discuss:
CRM during night shipboard landings.
Crew comfort levels during night shipboard landings.
Situational awareness during night shipboard landings.
Aircraft lighting used during night shipboard landings.
Basic instrument scan.
Emergency procedures at night over water.

Introduce: Night FCLP patterns, approaches, landings, and emergency procedures peculiar to shipboard operations.

Review: CQ-291.

Performance Standards. Pilots shall demonstrate proper shipboard communications and aircraft lighting procedures, maintain effective instrument scan, execute proper cockpit switchology, fly established CQ pattern demonstrating understanding of proper upwind, crosswind and interval parameters, fly 300 feet/80 kt pattern within 50 feet and 10 kts, maintain proper closure and bearing with intended point of landing, respond promptly and safely to altitude and drift calls from aircrew, remain oriented on assigned landing spot, and land within 1 meter of intended point of landing.

Prerequisite. CQ-291.

External Syllabus Support. Approved FCLP pad.

CQ-491 1.0 R 1 CH-46E A N*

Goal. Conduct night unaided CQ.

Requirement

Discuss:
CRM during shipboard landings.
Communications used during shipboard landings.
LSE signals.
Water landings/ditching.
Aircraft lighting used during shipboard landings.
Rotor engagement/disengagement.
Launch/Recovery wind envelopes.
Instrument scan.

Performance Standards. Pilots shall fly 300 feet/80 kt pattern within 25 feet and 10 kts, fly established CQ pattern demonstrating understanding of proper upwind, crosswind and interval parameters, maintain proper orientation to LSE, respond promptly and safely to altitude and drift calls from

aircrew, remain oriented on assigned landing spot, land within 1 meter of intended point of landing, utilize solid instrument scan, recognize proper closure with intended point of landing, demonstrate proper shipboard communications and aircraft lighting.

Prerequisite. CQ-300 and CQ-490 (if available).

External Syllabus Support. CQ capable ship.

140. INSTRUCTOR TRAINING

1. Instructor Under Training (IUT)

a. Purpose. The CH-46E Fleet Replacement Squadron (FRS) shall develop qualified instructor pilots, classroom materials, and procedures for instructor training and maintain the Instructor Under Training (IUT) syllabus for the CH-46E T&R.

b. General

(1) The IUT should fly all sorties with an experienced IP. The IP for NS-513 shall be an NSI.

(2) The IUT may fly a CAL-507 and receive a FRS TERFQ. This qualification will allow an IUT to receive the IP designation and can only instruct a Pilot Under Instruction (PUI) during a TERF-171.

(3) The IUT may fly a NS-513 and receive a FRS NSQ. This qualification will allow an IUT to receive the IP designation and be qualified to train in the Night Systems Familiarization Instructor (NSFI) Certification Course. The IP can only instruct a PUI during a NS-181, NS-182, and NS-183.

(4) The IUT may find all maneuver descriptions in the FRS Standardization Manual, NATOPS Flight Manual, and MAWTS-1 Course Catalog.

(5) Pilots shall discuss CRM as applicable to each event.

c. Minimum Crew Requirements. IP/IUT/CC (AGO if NS are used).

d. Ground/Academic Training

(1) All IUTs shall complete all assigned CBT lessons prior to FAM-500.

(2) All IUTs shall complete the course rules class, load computation class, crew resource management class, CNCS/PFPS introduction class, and ECCS class prior to FAM-500.

(3) All IUTs shall complete the NATOPS open book exam, course rules exam, and SOP exam prior to FAM-500.

(4) All IUTs shall complete the navigation class prior to NAV-505.

(5) All IUTs shall complete the TERF class prior to CAL-507.

(6) All IUTs shall complete the NATOPS closed book exam prior to IUT-511.

(7) All IUTs shall complete the NS class prior to NS-513.

e. Flight and Simulator Event Training (12 Flights, 19.5 Hours)

FAM-500 1.5 E 1 CH-46E A

Goal. Introduce techniques of instruction.
Requirement

Discuss:
CRM.
Course rules.

Introduce:
Course rules.
Techniques of instruction.
All FAM stage maneuvers.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all FAM Maneuvers per the FRS Standardization Manual and NATOPS Manual.

Prerequisite. ACAD-005 through ACAD-012.

FAM-501 1.5 E 1 CH-46E/WST A/S

Goal. Introduce techniques of instruction.

Requirement

Discuss:
CRM.
Course rules.

Introduce:
Course rules.
Techniques of instruction.
All familiarization stage maneuvers.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all FAM Maneuvers per the FRS Standardization Manual and NATOPS Manual.

Prerequisite. FAM-500.

FAM-502 1.5 E 1 CH-46E/WST A/S N*

Goal. Night unaided instructional techniques introduction.

Requirement

Discuss: CRM.

Introduce:
Local area orientation.
Night unaided FAM stage maneuvers.

Review:
All previously introduced maneuvers as necessary.
Instructional techniques.
Single engine landings.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all Night FAM Maneuvers per the FRS Standardization Manual and NATOPS Manual.

Prerequisite. FAM-501.

INST-503 1.5 E 1 CH-46E/WST A/S

Goal. Introduce instrument instructional techniques.

Requirement

Discuss: CRM.

Introduce:
Basic instrument procedures.
Basic instrument patterns (vertical S-1 and Oscar patterns).

Review: Any previously introduced maneuvers as necessary. Terminate flight with an instrument approach.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all INST Maneuvers per the FRS Standardization Manual and NATOPS Instrument Flight Manual.

INST-504 1.5 E 1 CH-46E/WST A/S

Goal. Continue instrument instructional techniques.

Requirement

Discuss: CRM.

Review:
IFR flight planning.
Filing DD-175 and DD-175-1.
Airway procedures.
Precision and non-precision instrument approaches.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all INST Maneuvers per the FRS Standardization Manual and NATOPS Instrument Flight Manual.

Prerequisite. INST-503.

NAV-505 1.5 E 1 CH-46E A

Goal. Introduce navigation procedures instructional techniques.

Requirement

Discuss: Navigation and identifying positions using charts and maps.

Review:
- CRM.
- Lost plane procedures.
- Time/distance checks.
- Distance information and map legend information.
- Use of jet logs and enroute navigational computer.
- Mountainous area landings.
- CALs.
- Power available.
- Techniques of instruction.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all NAV Procedures per the FRS Standardization Manual and Air NTTP 3-22.1/Air NTTP 3.22.3/Air NTTP 3.22.5 CH-46E.

Prerequisite. ACAD-021.

EXT-506 1.5 E 1 CH-46E A

Goal. Introduce external cargo procedures instructional techniques.

Requirement

Discuss: CRM.

Review:
- External operations.
- Cargo hook procedures.
- Techniques of instruction.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all EXT Procedures per the FRS Standardization Manual and Air NTTP 3-22.1/Air NTTP 3.22.3/Air NTTP 3.22.5 CH-46E.

External Syllabus Support. HST, external load, pendant and hook.

CAL-507 1.5 E 1 CH-46E/WST A/S

Goal. Introduce CAL/TERF instructional techniques.

Requirement

Discuss:
CRM.
Zone brief.

Review:
CALs.
Power checks.
Techniques of instruction.
Masking/unmasking.
Bunts/Rolls.
Quick stop.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all CAL/TERF procedures per the FRS Standardization Manual and Air NTTP 3-22.1/Air NTTP 3.22.3/ Air NTTP 3.22.5 CH-46E.

Prerequisite. ACAD-022.

External Syllabus Support. TERF area.

FAM 508 1.5 E 1 CH-46E/WST A/S

Goal. Introduce/evaluate ECCS techniques of instruction.

Requirement

Discuss: (ref: CH-46E ECCS NATOPS Manual/CH-46E Flight Standardization Manual)
ECCS system.
Theory of operation.
Preflight/start checklist.
Shutdown checklist.
Normal mode operation.
Manual mode operation.
Emergencies (instructional technique).
Single engine failure takeoff.
Single engine failure in HOGE.
Single engine failure in flight.
Compressor stall.
ECCS failure in flight.
Flex shaft failure in flight.
Sprag clutch slippage.
Practice autorotations.

Introduce/Evaluate:
Normal Engine Start.
Normal shutdown.
Emergencies (instructional technique):
Single engine failure takeoff.
Single engine failure in HOGE.
Single engine failure in flight.
Compressor stall.
ECCS failure in flight.
Flex shaft failure in flight.

Sprag clutch slippage.
Practice autorotations.

Performance Standards. Pilot shall demonstrate knowledge of ECCS, NATOPS checklists and instructional technique with ECCS.

Prerequisite. ACAD-008.

FORM-509 1.5 E 2 CH-46E A

Goal. Introduce formation flight instructional techniques.
Requirement

Discuss:
CRM.
Safety parameters.

Review:
All formation maneuvers.
Techniques of instruction.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all FORM Procedures per the FRS Standardization Manual and Air NTTP 3-22.1/Air NTTP 3.22.3/Air NTTP 3.22.5 CH-46E.

IUT-511 3.0 E 1 CH-46E A

Goal. Instructor standardization check.
Requirement

Discuss:
CRM.
Safety parameters.

Evaluate: All phases of instruction and techniques of instruction.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all procedures per the FRS Standardization Manual, Air NTTP 3-22.1/Air NTTP 3.22.3/Air NTTP 3.22.5 CH-46E and NATOPS Manual.

Prerequisite. ACAD-041.

NS-513 1.5 E 1 CH-46E A NS

Goal. Introduce initial NS instructional techniques.

Requirement

Discuss:
CRM.
Crew comfort levels.
NS failures.
Depth perception.

Cockpit lighting.
Emergency procedures.

Evaluate: All phases and techniques of instruction to include the following:
Taxi.
Vertical takeoff.
Vertical landing.
Square patterns.
Touch and go patterns.

Performance Standards. Pilot will conform to instructional techniques set forth by the FRS for all NS procedures per the FRS Standardization Manual, MAWTS-1 NS Manual and Air NTTP 3-22.1/Air NTTP 3.22.3/Air NTTP 3.22.5 CH-46E.

Prerequisite. ACAD-031, completion of NS NSFI Syllabus per MAWTS-1 Course Catalog.

2. Flight Leader Standardization Evaluator (FLSE) Training

a. Purpose. Each MAG with CH-46E aircraft shall assign an appropriate number of FLSEs to sufficiently conduct Flight Leader evaluation requirements IAW this publication.

b. General

(1) Each squadron commanding officer will nominate a minimum of two FLSEs to their corresponding MAG commanding officer.

(2) Each FLSE will be designated in writing by the MAG commanding officer.

(3) The MAG Operations department will be responsible for coordinating the scheduling of FLSE required flights.

(4) FLSE designated personnel shall attend MAG-sponsored semi-annual FLSE standardization training.

(5) FLSE certification of prospective flight leaders for deployed units or locations where a FLSE from a different unit is not available to conduct the certification may be conducted by an internal FLSE with MAG/MAGTF commander approval.

c. Minimum Requirements

(1) Designated Flight Lead.

(2) Must be well-versed in all academic readings, classes and chalk talks listed in Flight Leader POIs.

d. Flight and Simulator Event Training. No additional flight or simulator training is required for the designation of an FLSE.

150. REQUIREMENTS AND FLIGHT LEADERSHIP DESIGNATIONS

1. Overview

a. Purpose. This phase contains required evaluation and flight leadership events to determine qualification for designation in specific flight skills, systems, knowledge, and flight leadership traits.

b. General

(1) Squadrons should use this phase of training for check flights and designations. The PUI will demonstrate sound levels of aircraft/flight leadership and judgment required in a combat environment.

(2) Squadrons shall evaluate pilots for required and flight leadership designations at the discretion of the commanding officer per the criteria in the CH46 NATOPS Flight Manual, OPNAV 3710.7, and local SOPs.

(3) Upon the successful completion of the check flight, the new Helicopter Aircraft Commander (HAC), Section/Division/Flight Leader, or Air Mission Commander will be designated in writing by the commanding officer.

(4) Flight leadership codes do not chain other syllabus events. Log appropriate T&R syllabus event in addition to flight leadership code. Range, ordnance, and external support will be IAW the appropriate T&R syllabus event.

(5) Initial designation requires completion of all flight leadership events specific to a designation. Flight leadership re-designation criteria for aircrew that do not require Core Skill Introduction Refresher training is at the discretion of the commanding officer. For aircrew that require Core Skill Introduction Refresher training per paragraph 405 of the Aviation T&R Program Manual, the minimum re-designation requirement for flight leader positions is successful completion of the respective flight leader POI check (R-coded) events.

(6) Flight Leadership proficiency tracking codes (DESG-670-673) shall be logged in conjunction with the appropriate 200-400 level event training code every time an aircrew flies an event as a designated section lead, division lead, flight lead, or mission commander.

c. Ground/Academic Training. See individual syllabi for specific ground/academic training requirements.

d. Flight and Simulator Event Training. (14 Flights, 15.5 Hours)

2. Required Flights (RQD)

a. Purpose. To determine qualification for designation in specific flight skills, systems, knowledge, and procedures.

b. General. This section enables squadrons to document completion of annual NATOPS and instrument evaluation flights.

(1) For RQD-600 the evaluating pilot shall be a designated NATOPS Instructor (NI) or Assistant NATOPS Instructor (ANI). For RQD-601 the evaluating pilot shall be a designated Instrument Evaluator.

(2) Prerequisites. See OPNAVINST 3710.7, OPNAVINST 4790.2, and the CH-46E NATOPS Flight Manual.

(3) Minimum Crew Requirements. P/CP/CC/ (AGO if NS are used).

c. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog, CH-46E NATOPS Flight Manual (e.g. - RQD 600: Open Book Exam, Closed Book Exam), and OPNAVINST 3710.7 (e.g. - RQD 601: Instrument Ground School).

d. Flight and Simulator Event Training. (2 Flights, 3.0 Hours)

RQD-600 1.5 R,E 1 CH-46E/WST A/S (N)

Goal. Conduct annual NATOPS evaluation and evaluate utilization of all aspects of the CH-46E as a weapons system.

Requirement

Discuss: All emergency procedures and Standardization Manual maneuvers.

Review:
- Local SOP's / Course Rules
- Emergency Procedures (Simulated).
- Standardization Manual maneuvers.
- Familiarization maneuvers.

Performance Standards. The performance expected by the evaluator in this flight shall be commensurate with the experience of the pilot under evaluation.

Prerequisite. Qualified H2P.

External Syllabus Support. WST/APT (If sim is utilized).

RQD-601 1.5 E WST/1 CH-46E S/A (N)

Goal. Conduct annual instrument evaluation and evaluate all phases of instrument flight to include precision and non-precision approaches, partial panel, and instrument holding.

Requirement

Discuss: Instrument procedures per NATOPS Instrument Flight Manual.

Review:
- FLIP publications
- Takeoff / Approach minimums
- Weather briefing
- Flight planning procedures
- TACAN procedures
- Instrument approach procedures
- Voice reporting procedures
- CNCS

Performance Standards.
-Receive and acknowledge ATC clearance; Execute instrument takeoff as required to a positive climbing attitude and acceleration to climb schedule expeditiously and safely.
-Smoothly transitions to an angle of bank turn required for desired turn rate; adjust angle of bank as required to maintain desired rate of turn while maintaining a relatively constant turn throughout.
-During steep turns, maintain positive control and applies proper correction to keep within safe limits of altitude and airspeed.
-Demonstrates proper procedure for recovery from unusual attitudes
-Demonstrates proper procedures for positioning aircraft on predetermined TACAN radial.
-Conduct Partial Panel Airwork. Maintains control and applies proper corrections to keep within safe limits of altitude, airspeed, attitude and heading.
-Conduct flight planning and clearance execution in accordance with local SOP's FLIP, OPNAV and other governing instructions.
-Maintains heading/track, airspeed, and altitude as briefed or cleared by controlling agency.
-Observes good radio discipline; gives required reports clearly and in proper sequence.
-Executes approaches as published or instructed, from which a successful straight-in or circling approach to landing can be made.
-Executes prompt, proper procedures for activating, tuning, and utilizing comm and nav equipment.
-Properly analyzes simulated emergency situations and takes appropriate action without deviation, error, or omission.

Prerequisite. Per OPNAV 3710.7.

External Syllabus Support. Instrument capable WST/APT. Instrument capable NAVAID or facility if flown in aircraft.

3. Helicopter Aircraft Commander (HAC)

a. Purpose. To review all areas of instruction, demonstrate proficiency and knowledge of all maneuvers, while evaluating the PUI's requisite knowledge, leadership, airmanship, and judgment in all phases of flight commensurate with the certification as a HAC.

b. General

(1) Prospective HAC's shall conduct the following day and night flights in order to develop the PUI's flight leadership necessary for designation.

(2) The prospective HAC must have completed all of the requirements for, and possess to an advanced degree the knowledge proficiency, and capabilities of an H2P. He must further meet the requirements as set forth in detail in OPNAVINST 3710.7.

(a) Have been recommended by the Standardization Board.

(c) Have a minimum of 500 total flight hours.

(d) Have 150 flight hours in rotary-wing aircraft.

(e) Core Skill complete. (The commanding officer may defer any training flights per the T&R Program Manual.)

(g) Open and Closed book NATOPS examinations shall be completed prior to the commencement of the check flight (HAC-605).

(3) For HAC-604 and 605 the evaluating pilot shall be a designated NATOPS Instructor or ANI.

(4) Refresher pilots previously qualified as HACs, upon completion of RQD-600, may be designated as Aircraft Commanders by unit commanding officers.

c. Ground/Academic Training. Prospective HACs must have read and be familiar with the following publications: OPNAVINST 3710.7, A1-H46AE-NFM-000, CH-46E Flight Standardization Manual, ANTTP 3-22.1 Combat Aircraft Fundamentals CH-46 (S), ANTTP 3-22.3 Combat Aircraft Fundamentals CH-46 (U), ANTTP 3-22.5-RWTACSOP, and local SOP's.

d. Minimum Crew Requirements. P/CP/CC/ (AGO when conducted on NS).

e. Flight Training. (4 Flights, 6.0 Hours).

HAC-602 1.5 E 1 CH-46E/WST A/S

Goal. Conduct day HAC review. Emphasize emergency procedures. Fly at (or simulate) high gross weight condition.

Requirement. This flight will review all practicable day operations and procedures contained in the T&R syllabus in preparation for the HAC check.

Discuss: Aircraft commander duties and responsibilities.

Review: Flight maneuvers, aircraft systems.

Performance Standards. Pilot will conduct day Core Skill Basic and Core Skill Advanced stage events IAW applicable manuals, and demonstrate sound knowledge of NATOPS limits, Eps, and aircraft systems.

Prerequisite. Per NATOPS, Squadron SOP, and NSQ.

HAC-603 1.5 E 1 CH-46E/WST A/S (N)

Goal. Conduct night HAC review. Night and NS. Emphasize emergency procedures. Fly at (or simulate) high gross weight condition.

Requirement

Discuss: Aircraft commander duties and responsibilities.

Review: Flight maneuvers and aircraft systems.

Performance Standards. Pilot will conduct night/NVD Core Skill stage events IAW applicable manuals, and demonstrate sound knowledge of SOPs, T&R Program Manual regulations, and OPNAV regulations.

Prerequisite. Per NATOPS, Squadron SOP, and NSQ.

HAC-604 1.5 E 1 CH-46E A

Goal. Conduct day HAC check. Check will be conducted per the CH-46E NATOPS Flight Manual and OPNAVINST 3710.7 and include all practicable operations and procedures previously covered. Fly at (or simulate) high gross weight condition.

Requirement. Pilots shall demonstrate, to an advanced degree, the knowledge, proficiency and capabilities of an H2P, to include CRM, with emphasis on decision making and situational awareness.

Discuss: Aircraft commander duties and responsibilities.

Review: Flight maneuvers and aircraft systems.

Performance Standards. Pilot will conduct day Core Skill stage events IAW applicable manuals, demonstrate situational awareness, CRM, and operational knowledge necessary to be a HAC, and demonstrate sound knowledge of the CH-46E Air NTTP Manual and CH-46E tactical employment.

Prerequisite. HAC-602, and HAC-603.

HAC-605 1.5 E 1 CH-46E A (N)

Goal. Conduct night HAC check. Night and NS. Emphasize emergency procedures. Fly at (or simulate) high gross weight condition.

Requirement. Pilots shall demonstrate, to an advanced degree, the knowledge, proficiency and capabilities of an H2P, to include CRM, with emphasis on decision making and situational awareness.

Discuss: Aircraft commander duties and responsibilities.

Review: Flight maneuvers, aircraft systems.

Performance Standards. Pilot will conduct night, and/or NVD Core Skill stage events IAW applicable manuals, demonstrate situational awareness, CRM, and operational knowledge necessary to be a HAC, and demonstrate sound knowledge of the CH-46E Air NTTP Manual and CH-46E tactical employment.

Prerequisite. HAC-602 and 603.

4. Section Leader (SL)

a. Purpose. To prepare and evaluate the prospective section lead's ability to plan, brief and lead a section of CH-46Es.

b. General

(1) Prospective section leads shall conduct the following day and night sorties in order to develop the PUI's flight leadership necessary for designation. Sortie events SL-606 - SL-610 are not required to be flown in order and may be flown in conjunction with each other.

(2) Section lead instruction sorties events (SL-606 - SL-610) may be evaluated by a section leader or higher. SL-611 and SL-612 shall be evaluated by a division lead or higher. Additionally, one of the final two sortie events (SL-611/612) will be flown at night. The check flight (SL-612) shall be evaluated by a qualified MAG designated FLSE from another command. If an FLSE from another command is unavailable, the MAG/MAGTF commanding officer may approve the use of internal squadron FLSE.

(3) A prospective section leader must be fully qualified to lead a section under all conditions in performance of any of the squadron tasks as well as meet the following prerequisites:

(a) Be a qualified CH-46E Aircraft commander.

(b) Have a minimum of 50 HAC hours.

(c) Have flown a minimum of three flights as a designated HAC.

(d) Nominated by the Standardization Board.

(4) The Section Leader Under Instruction (SLUI) will perform preflight planning, conduct a tactical mission and NATOPS brief, lead a section and conduct a debrief. Evaluation will be based upon flight safety, section control, formation integrity, and communication procedures.

(5) The squadron will ensure that the SLUI is prepared for the section lead syllabus. The flight stage of this syllabus must be complete within six (6) months following the first flight. If six months have elapsed since completion of any SLUI flight, that flight must be reflown prior to completing the final certification flight.

(6) For SLUI flights, the squadron operations department will provide the proposed section leader with a tactical scenario containing sufficient information to enable mission analysis and planning.

c. Minimum Crew Requirements. P/CP/CC/ (AGO when conducted on NS).

d. Ground/Academic Training. The following matrix will be used to track academic and administrative training:

SELF PACED READINGS		DATE COMP
MAWTS-1 ASSAULT SUPPORT PLANNING GUIDE		
ANTTP 3-22.3, CH 1 - MISSION PLANNING		
ANTTP 3-22.3, CH 6 - ASSAULT SUPPORT OPERATIONS		
ANTTP 3-22.3, CH 7 - ESCORT CONSIDERATIONS		
ANTTP 3-22.3, CH 12 - NIGHT AND ALL WEATHER OPERATIONS		
ROTARY WING TACSOP		
WTI ACE BATTLE STAFF PLANNING GUIDE		
MCWP 5-1 MARINE CORPS PLANNING PROCESS		
REQUIRED CHALK TALKS	**INSTRUCTOR**	**DATE COMP**
NATOPS BRIEF VS. FLIGHT BRIEF		
TIMELINE CONSTRUCTION		
TIMELINE MANAGEMENT		
MISSION PLANNING SYSTEMS		
REQUIRED LECTURES	**INSTRUCTOR**	**DATE COMP**
MAWTS-1 6 Funct of Marine Aviation		
MAWTS-1 USMC Planning Process		
MAWTS-1 MAGTF FSCM		
MAWTS-1 Intel Supt to Msn Planners		
ASD FL Briefing		

e. Flight Training. (7 Flights, 8.0 Hours).

SL-606 1.0 E 2 Assault Support Aircraft A

Goal. Review section formation and tactical section formation maneuvering. Emphasizesafety, training rules, clear, concise and correct communications, flight control, and area management. Additional emphasis should be on flight coordination, flight discipline, lost communication procedures, inadvertent IMC, rendezvous procedures, and in-flight emergency coordination in a daytime environment.

Requirement. Plan, brief, lead and debrief a tactical formation maneuvering sortie as a section lead. Upon successful completion of this event, the SLUI shall log both training codes for tracking purposes. SLUI must conduct all authorized TACFORM maneuvers as TAC lead to complete this event.

Discuss:
Section Flight Considerations (e.g. use of power, AOB, rates of climbs/descents).
Intra and Inter flight crew coordination.
Flight delegation of responsibilities.
Section tactics
Section emergencies.
Inadvertent IMC.
Lost comm. considerations

Review:
CRM.
Crew comfort level.
Closure rate.
Lead changes (to include EMCON).
Common terminology.
Tactical formation maneuvering.
Appropriate formation maneuvers against a FW threat, RW threat, IR missile threat, radar guided missile threat, and AAA threat.
Intra and inter aircraft communications.
Break turns, center turns, pinch/dig, cover, TAC turns, inplace turns, split turns, cross turns.
Combat spread and combat cruise.
Parade formation.
Cruise principles, crossover, break-up and rendezvous, and lead changes.

Performance Standards
-Exercise appropriate CRM.
-Maintain situational awareness.
-Maintain section integrity and mutual support.
-Maintain appropriate cruise formation and rotor separation throughout maneuvers.
-Utilize radius of turn principles.
-Employ appropriate commands to maneuver flight.

Prerequisites. HAC, FORM-231.

Range Requirements. Special use airspace preferred.

SL-607 1.0 E 2 Assault Support Aircraft A

Goal. Demonstrate the ability to plan, brief and lead a TERF navigation flight emphasizing flight coordination, flight discipline, lost communications procedures, inadvertent IMC, rendezvous procedures and in-flight emergency coordination in a daytime environment. Additional emphasis should be placed on timeline management and fuel planning.

Requirement. Plan, brief, lead and debrief a TERF navigation flight. Upon successful completion of this event, the SLUI shall log both training codes for tracking purposes. Navigate a route at 200' AGL or less with at least five checkpoints and remain oriented within 200 meters of course line. Arrive at the final checkpoint within 30 seconds of the planned arrival time.

Discuss:
Use of onboard navigation systems.
Route planning.

Review:
CRM during TERF navigation.
Tactical map preparation (1:50,000 & 1:250,000).
Section takeoffs/landings.
Section tactical approaches.

Landings and departures to a confined area in all threat environments.

Performance Standards
-Plan, brief and fly a route to a minimum of five checkpoints at or below 200 feet AGL.
-Maintains proper formation and visual mutual support to and from working area.
-TERF navigation utilizing 1:250,000 and 1:50,000 scale maps as appropriate.
-Remain oriented on route within 200 meters.
-Arrive at the final checkpoint within 30 seconds of the planned arrival time.
-Ensure effective CRM for navigation and obstacle clearance.
-Demonstrate effective inter and intra cockpit management for precision navigation.

Prerequisites. HAC, TERF-242.

External Syllabus Support. Approved TERF route (special use airspace preferred).

SL-608 1.0 E 2 Assault Support Aircraft NS

Goal. Demonstrate the ability to plan, brief and lead an NVG (HLL or LLL) section CAL flight emphasizing flight coordination, flight discipline, lost communications procedures, inadvertent IMC, rendezvous procedures and in-flight emergency coordination in a night environment.

Requirement. Plan, brief, lead and debrief a section NVG (HLL or LLL) CAL and TERF navigation flight. Upon successful completion of this event, the SLUI shall log both training codes for tracking purposes. Conduct NVG CALs from both the lead and the wingman positions; complete a minimum of four landings.

Discuss:
CRM during NS section CALs.
External aircraft lighting considerations during NS formation operations.
Affect of night systems on section tactics.
Ordnance affects on NS.
Laser aiming devices.

Review:
Section tactical approach, landings and departures to a confined area while using NS.
NS formation techniques.
LZ brief and evaluation.

Performance Standards
-Maintains proper formation and visual mutual support to and from working area.
-Demonstrate proper wingman considerations throughout all phases of the standard CAL pattern.
-Maintain safe obstacle clearance
-Land within two rotors of intended point of landing (lead)

-Maintain section integrity during approach and landing (wingman).
-Maintain effective instrument and NS scan.

Prerequisites. HAC, NS-253/312.

External Syllabus Support. NS CAL zone.

SL-609 1.0 E 2 Assault Support Aircraft A NS

Goal. Demonstrate the ability to plan, brief and lead an NVG (HLL or LLL) section TERF navigation flight emphasizing flight coordination, flight discipline, lost communications procedures, inadvertent IMC, rendezvous procedures and in-flight emergency coordination in a night environment. Additional emphasis should be placed on mission timeline, fuel, and objective area planning.

Requirement. Plan, brief, lead and debrief an NVG section TERF navigation flight. Upon successful completion of this event, the SLUI shall log both training codes for tracking purposes. Navigate a route at 200' AGL or less with at least five checkpoints and remain oriented within 200 meters of course line. Arrive at the final checkpoint within 30 seconds of the planned arrival time.

Discuss:
CRM during NS TERF navigation.
Crew comfort level during NS TERF operations.
Emergencies at low altitude.

Review:
NS navigation considerations.
Use of onboard navigation systems.

Performance Standards
-Plan, brief and fly a route to a minimum of five checkpoints at or below 200 feet AGL.
-Maintains proper formation and visual mutual support to and from working area.
-Maintain effective instrument and NS scan.
-TERF navigation utilizing 1:250,000 and 1:50,000 scale maps as appropriate.
-Remain oriented on route within 200 meters.
-Arrive at the final checkpoint within 30 seconds of the planned arrival time.
-Ensure effective CRM for navigation and obstacle clearance.
-Demonstrate effective inter and intra cockpit management for precision navigation.

Prerequisites. HAC, NS-257/314.

External Syllabus Support. Approved TERF route (special use airspace preferred).

SL-610 1.0 E 2 Assault Support Aircraft A (N)

Goal. Demonstrate the ability to plan, brief, lead and debrief a section day or night aerial gunnery flight, emphasizing flight coordination, flight discipline, lost communications procedures, inadvertent IMC, rendezvous procedures, and in-flight emergency coordination in a day or night environment.

Requirement. Plan, brief, lead and debrief a section aerial gunnery flight. Upon successful completion of this event, the SLUI shall log both training codes for tracking purposes.

Discuss:
- Formation tactics with aerial gunnery.
- Fields of fire versus sectors of fire.
- Laser aiming devices.
- CRM.
- Crew comfort levels.

Review:
- Weapons preflight.
- Standard weapons commands.
- Lost communication procedures.
- Visual signals.
- Weapons safety considerations, malfunctions/emergencies.
- Weapons conditions.
- Hung ordnance procedures.
- Effects of ordnance, expendables, pyrotechnics on NS.

Performance Standards
-Pilots shall maintain effective NS scan.
-Utilize solid instrument scan.
-Recognize proper closure with intended point of landing.
-Demonstrate understanding of NS considerations WRT weapons employment.
-Use proper gun procedures and commands to direct aerial gunnery.
-Demonstrate understanding of weapons parameters.
-Demonstrate understanding of weapons conditions.
-Fly weapons delivery profile IAW briefed parameters.
-Demonstrate understanding of gun control within briefed fields of fire and sectors of fire.

Prerequisites. HAC, AG-281/321.

Ordnance. .50 cal x 500 rnds.
Chaff/Flare as required.

Range Requirements. Aerial Gunnery range.

Note: Due to range availability, this flight may be satisfied through the planning and briefing of aerial gunnery considerations in a training and tactical environment.

SL-611 1.5 E 2 Assault Support Aircraft A (N)

Goal. Conduct day or night section leader training utilizing a METL based tactical scenario. Emphasiize mission analysis using METT-TSL, the mission planning process, weapons and ASE employment (evasive actions, sectors of fire), integrated objective area planning/flow and escort considerations. Additional emphasis on night considerations, detailed fuel planning, contingency planning, and missicn delegation of tasks.

Requirement. SLUI shall plan, brief, lead, and debrief a day or night section low/medium threat tactical flight to include escort and fire support considerations. Use Air NTTP 3-22.1/Air NTTP 3.22-3/Air NTTP 3.22.5 CH-46E as source documents for planning. Flight shall include escorts (actual or notional).

Discuss:
- Section tactics.
- Escort tactics.
- Tactical planning, briefing, execution, and debriefing.
- DASC control.
- Rules of engagement as they apply to the mission.
- Flight delegation of responsibilities.
- Contingency missions: CASEVAC, TRAP, Emergency Extract, Sparrowhawk.
- Immediate retasking.
- Go-No Go criteria: weather, ASE, escorts, threats, GCE Considerations.
- GCE support considerations.
- In-flight changes to route/LZ.
- Authentication/Encryption.
- Evasive maneuvering for RADAR and non-RADAR threats.

Review:
- Use of onboard ASE during the mission.
- CRM during the ingress, objective area, and egress phases of the mission.
- Use of onboard navigation systems.
- Section emergencies.
- Use of tactical formations and approaches.
- Radio procedures and discipline consistent with EMCON conditions.
- Effect of night systems on section tactics.
- Ordnance effects on NS.
- Laser aiming devices.

Performance Standards
-Plans and briefs a tactical mission IAW the Rotary Wing TACSOP and ANTTP 3-22.3.
-Keeps section oriented within 200 meters.
-Arrive at LZ or coordinated checkpoint within 30 seconds of briefed plan.
-Land at intended point of landing within 50 meters.
-Demonstrate proper employment of ASE.
-Demonstrate proper use of tactical formations
-Demonstrate situational awareness of other aircraft through all phases of flight.

-Demonstrate positive control of flight.
-As applicable, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery.
-As applicable demonstrate proper understanding of Laser employment.
-Demonstrate proper understanding of C4I utilization to facilitate execution and information flow.
-Demonstrate appropriate respect for threat from planning through execution.
-Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
-Demonstrate proper understanding of escort considerations.
-Demonstrate proper understanding of secure and active communications.
-Demonstrate understanding of FSCM utilization.
-Demonstrate understanding of contingency considerations.

Prerequisite. HAC, TAC-372, SL 606-610 complete.

Ordnance. As required.

Range Requirements. Aerial Gunnery range and/or EW/threat simulation range as required.

External Syllabus Support. CAL zones, Authorized TERF area.

SL-612 1.5 R,E 2 Assault Support aircraft A (N)

Goal. Section leader check utilizing a METL based tactical scenario. Emphasize situational awareness, flight maturity, CRM, and the tactical and operational knowledge required of a Section Lead.

Requirement. SLUI shall plan, brief, lead, and debrief a day or night section low/medium threat tactical flight to include escort, and fire support considerations and aerial gunnery. Use Air NTTP 3-22.1/Air NTTP 3.22-3/Air NTTP 3.22.5 CH-46E as source documents for planning. Flight shall include escorts (actual or notional).

Review: SL-606 through SL-611

Performance Standards
-Plans and briefs a tactical mission IAW the Rotary Wing TACSOP and ANTTP 3-22.3.
-Keeps section oriented within 200 meters.
-Arrive at LZ or coordinated checkpoint within 30 seconds of briefed plan.
-Land at intended point of landing within 50 meters.
-Demonstrate proper employment of ASE.
-Demonstrate proper use of tactical formations
-Demonstrate situational awareness of other aircraft through all phases of flight.
-Demonstrate positive control of flight.
-As applicable, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery.

-As applicable demonstrate proper understanding of Laser employment.
-Demonstrate proper understanding of C4I utilization to facilitate execution and information flow.
-Demonstrate appropriate respect for threat from planning through execution.
-Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
-Demonstrate proper understanding of escort considerations.
-Demonstrate proper understanding of secure and active communications.
-Demonstrate understanding of FSCM utilization.
-Demonstrate understanding of contingency considerations.

Prerequisite. SL-611, SL academics complete.

Ordnance. 200 rounds .50 cal per aircraft, 20 chaff and 40 flares.

Range Requirements. Aerial Gunnery range and/or EW/threat simulation range as required.

External Syllabus Support. CAL zones, Authorized TERF area.

5. Division Leader (DL)

a. Purpose. To prepare and evaluate the prospective division lead's ability to plan, brief and lead a division of CH-46Es.

b. General

(1) Prospective division leads shall conduct the following day and night sorties in order to develop the PUI's flight leadership necessary for designation. Sortie events DL-613 & DL-614 are not required to be flown in order.

(2) Division lead instruction sortie events (DL-613/614) may be evaluated by a division leader or higher. DL-615 and DL-616 shall be evaluated by a flight lead or higher. Additionally, one of the final two sortie events (DL-615/616) will be flown at night. The check flight (DL-616) shall be flown by a qualified MAG designated FLSE from another command. If a FLSE from another command is unavailable, the MAG/MAGTF commanding officer may approve the use of internal squadron FLSE.

(3) A prospective division leader must be fully qualified to lead a division under all conditions in performance of any of the squadron tasks as well as meet the following prerequisites:

(a) Be a CH-46E Section Leader.

(b) Have no less than 600 total flight hours. Of this total, 200 hours must be in rotary-wing aircraft. Of these 200 hours, 50 must be in squadron model.

(c) Have flown a minimum of three flights as a designated SL.

(d) Nominated by the Standardization Board.

(4) The Division Leader Under Instruction (DLUI) will perform preflight planning, conduct a tactical mission and NATOPS brief, lead a division and conduct a debrief. Evaluation will be based upon flight safety, formation integrity, situational awareness, formation approaches and landings, communication procedures, and intra-flight task delegation.

(5) The squadron will ensure that the DLUI is prepared for the division lead syllabus. The flight stage of this syllabus must be complete within six (6) months following the first flight. If six months have elapsed since completion of any DLUI flight, that flight must be reflown prior to completing the final certification flight.

(6) For all DLUI flights, the squadron operations department will provide the proposed division leader with a tactical scenario containing sufficient information to enable mission analysis and planning.

c. At the discretion of squadron commanding officers, qualified division leaders may be nominated as MAG FLSEs to the MAG commanding officer. The MAG CO designation as a MAG FLSE shall be entered into the instructor pilot's NATOPS jacket.

d. Minimum Crew Requirements. P/CP/CC/ (AGO when conducted NS).

e. Ground/Academic Training. The following matrix will be used to track academic and administrative training:

SELF PACED READINGS		DATE COMP
MAWTS-1 ASSAULT SUPPORT PLANNING GUIDE		
ANTTP 3-22.3, CH 1 - MISSION PLANNING		
ANTTP 3-22.3, CH 2 - TACTICAL FORMATION FLIGHT		
ANTTP 3-22.3, CH 6 - ASSAULT SUPPORT OPERATIONS		
ANTTP 3-22.3, CH 7 - ESCORT CONSIDERATIONS		
ANTTP 3-22.3, CH 8 - MEU (SOC) OPERATIONS		
ANTTP 3-22.3, CH 9 - PRINCIPLES OF ELECTRONIC WARFARE		
ANTTP 3-22.3, CH 10 - DACM EMPLOYMENT		
ANTTP 3-22.3, CH 11 - THREAT COUNTER TACTICS		
ANTTP 3-22.3, CH 12 - NIGHT AND ALL WEATHER OPERATIONS		
ANTTP 3-22.3, CH 13 - WEAPON SYSTEM EMPLOYMENT		
ANTTP 3-22.3, CH 14 - FARP OPERATIONS		
ROTARY WING TACSOP		
WTI ACE BATTLE STAFF PLANNING GUIDE		
REQUIRED CHALK TALKS	**INSTRUCTOR**	**DATE COMP**
OBJECTIVE AREA PLANNING		
RAPID RESPONSE PLANNING PROCESS		
REQUIRED LECTURES	**INSTRUCTOR**	**DATE COMP**
MAWTS-1 ACE Battle Staff Planning		
MAWTS-1 ROE and the Laws of War		
MAWTS-1 Aviation Supt to the MAGTF		
ASD Obj Area Planning & Briefing		
ASD FL Briefing		

f. Flight Training. (4 Flights, 5.0 Hours).

DL-613 1.0 E 3 OR 4 Assault Support Aircraft A

Goal. Demonstrate the ability to plan, brief, lead and debrief division CALs and section TERF, emphasizing flight coordination, flight discipline, lost communications procedures, inadvertent IMC, rendezvous procedures, and in-flight emergency coordination in a day environment. Additional emphasis should be placed on mission timeline, fuel, and objective area planning.

Requirement. Plan, brief, lead and debrief division CALs and section TERF navigation. Upon successful completion of this event, the DLUI shall log all training codes for tracking purposes. Conduct multiple aircraft tactical approaches, landings and departures to a confined area; navigate a route at 200' AGL or less with at least five checkpoints and remain oriented within 200 meters of course line. Arrive at the final checkpoint within 30 seconds of the planned arrival time.

Discuss:
CRM during formation flight.
Division tactical approaches.

Landings and departures to a confined area in all threat environments.
Mission planning for training missions (i.e. how to get all of the X's that Operations has scheduled for your flight).

Review: SL-607.

Performance Standards
-Maintains proper formation and visual mutual support to and from working area.
-Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed.
-Fly established pattern checkpoints.
-Recognize closure rate to landing point.
-Remain oriented in zone.
-Demonstrate power management.
-Maintain safe obstacle clearance.
-Land within two rotors of intended point of landing (lead), and maintain section integrity during approach and landing (wingman).
-Plan, brief and fly a route to a minimum of five checkpoints at or below 200 feet AGL.
-Maintain effective instrument scan.
-TERF navigation utilizing 1:250,000 and 1:50,000 scale maps as appropriate.
-Remain oriented on route within 200 meters.
-Arrive at the final checkpoint within 30 seconds of the planned arrival time.
-Ensure effective CRM for navigation and obstacle clearance.
-Demonstrate effective inter and intra cockpit management for precision navigation.

Prerequisites. Designated Section Leader.

External Syllabus Support. LZ capable of supporting three or more CH-46E. Approved TERF route (special use airspace preferred).

DL-614 1.0 E 3 OR 4 Assault Support aircraft A NS

Goal. Demonstrate the ability to plan, brief and lead an NVG (HLL or LLL) division CALs and section TERF, emphasizing flight coordination, flight discipline, lost communications procedures, inadvertent IMC, rendezvous procedures, and in-flight emergency coordination in a day environment. Additional emphasis should be placed on mission timeline, fuel, and objective area planning.

Requirement. Plan, brief, lead and debrief division CALs and section TERF navigation. Upon successful completion of this event, the DLUI shall log all training codes for tracking purposes. Conduct multiple aircraft tactical approaches, landings and departures to a confined area; navigate a route at 200' AGL or less with at least five checkpoints and remain oriented within 200 meters of course line. Arrive at the final checkpoint within 30 seconds of the planned arrival time.

Review:
CRM during NS formation.

Crew comfort level during NS division formation operations.
NS division formation techniques.
External aircraft lighting considerations during NS formation operations.
TERF considerations at night

Performance Standards
-Maintains proper formation and visual mutual support to and from working area.
-Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed.
-Fly established pattern checkpoints.
-Recognize closure rate to landing point.
-Remain oriented in zone.
-Demonstrate power management.
-Maintain safe obstacle clearance.
-Land within two rotors of intended point of landing (lead), and maintain section integrity during approach and landing (wingman).
-Plan, brief and fly a route to a minimum of five checkpoints at or below 200 feet AGL.
-Maintain effective instrument and NS scan.
-TERF navigation utilizing 1:250,000 and 1:50,000 scale maps as appropriate.
-Remain oriented on route within 200 meters.
-Arrive at the final checkpoint within 30 seconds of the planned arrival time.
-Ensure effective CRM for navigation and obstacle clearance.
-Demonstrate effective inter and intra cockpit management for precision navigation.

Prerequisite. Designated Section Lead.

External Syllabus Support. LZ capable of supporting three or more CH-46E. Approved TERF route (special use airspace preferred).

DL-615 1.5 E 3 or 4 Assault Support aircraft A (N)

Goal. Conduct day or night division leader training utilizing a METL based tactical scenario. Emphasize mission analysis using METT-TSL, the mission planning process, weapons and ASE employment (evasive actions, sectors of fire), integrated objective area planning/flow and escort considerations. Additional emphasis on detailed fuel planning, contingency planning, and mission delegation of tasks.

Requirement. DLUI shall plan, brief, lead, and debrief a day or night section medium threat tactical flight to include escort, and fire support considerations and aerial gunnery. Use Air NTTP 3-22.1/Air NTTP 3.22-3/Air NTTP 3.22.5 CH-46E as source documents for planning. Flight shall include escorts (actual or notional).

Discuss:
Contingency missions: immediate extract, emergency extract.
Lost comm. Considerations.
Immediate retasking.
Tasking of flight elements.

Go-No Go criteria: weather, ASE, escorts, threats, GCE considerations.
GCE support considerations.
In-flight changes to route/LZ.
ASE utilization for night missions (i.e. flare considerations).
Escort considerations at night.
Fire support considerations at night.
Onboard defensive weapons considerations at night.

Review:
CRM during a night assault support mission.
Flight counter tactics for air and ground threats.
Tactical planning, briefing, execution and the use of onboard ASE and navigation systems.
Mission planning using a preplanned scenario and mission.
Navigation time and distance checks to meet a planned L-Hour.
Multi-plane NS aerial gunnery in objective area/LZ, if possible.
Escort considerations.
Escort utilization, if available.
In-flight retasking/contingency missions.
Fire support considerations and control measures.
Control and terminology for onboard defensive weapons.
EMCON procedures.
NBC considerations.

Performance Standards
-Plans and briefs a tactical mission IAW the Rotary Wing TACSOP and ANTTP 3-22.3.
-Keeps section oriented within 200 meters.
-Arrive at LZ or coordinated checkpoint within 30 seconds of briefed plan.
-Land at intended point of landing within 50 meters.
-Demonstrate proper employment of ASE.
-Demonstrate proper use of tactical formations
-Demonstrate situational awareness of other aircraft through all phases of flight.
-Demonstrate positive control of flight.
-As applicable, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery.
-As applicable demonstrate proper understanding of Laser employment.
-Demonstrate proper understanding of C4I utilization to facilitate execution and information flow.
-Demonstrate appropriate respect for threat from planning through execution.
-Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
-Demonstrate proper understanding of escort considerations.
-Demonstrate proper understanding of secure and active communications.
-Demonstrate understanding of FSCM utilization.
-Demonstrate understanding of contingency considerations.

Prerequisite. Designated Section Leader, TAC-374/375, DL 613 & 614 complete.

Ordnance. As required.

Range Requirements. Aerial Gunnery range and/or EW/threat simulation range as required.

External Syllabus Support. CAL zones, Authorized TERF area.

DL-616 1.5 R,E 3 OR 4 Assault Support aircraft A (N)

Goal. Division leader check utilizing a METL based tactical scenario. Emphasize situational awareness, flight maturity, CRM, and the tactical and operational knowledge required of a Division Lead.

Requirement. DLUI shall plan, brief, lead, and debrief a day or night section medium threat tactical flight to include escort, and fire support considerations and aerial gunnery. Use Air NTTP 3-22.1/Air NTTP 3.22-3/Air NTTP 3.22.5 CH-46E as source documents for planning. Flight shall include escorts (actual or notional).

Review: DL-615

Performance Standards
-Plans and briefs a tactical mission IAW the Rotary Wing TACSOP and ANTTP 3-22.3.
-Keeps section oriented within 200 meters.
-Arrive at LZ or coordinated checkpoint within 30 seconds of briefed plan.
-Land at intended point of landing within 50 meters.
-Demonstrate proper employment of ASE.
-Demonstrate proper use of tactical formations
-Demonstrate situational awareness of other aircraft through all phases of flight.
-Demonstrate positive control of flight.
-As applicable, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery.
-As applicable demonstrate proper understanding of Laser employment.
-Demonstrate proper understanding of C4I utilization to facilitate execution and information flow.
-Demonstrate appropriate respect for threat from planning through execution.
-Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
-Demonstrate proper understanding of escort considerations.
-Demonstrate proper understanding of secure and active communications.
-Demonstrate understanding of FSCM utilization.
-Demonstrate understanding of contingency considerations.

Prerequisite. DL academics complete, DL-615.

Ordnance. 200 rounds .50 cal per aircraft, 20 chaff and 40 flares.

Range Requirements. Aerial Gunnery range and/or EW/threat simulation range as required.

External Syllabus Support. CAL zones, Authorized TERF area, RW and/or FW escort.

6. Flight Leader (FL)

a. Purpose. To prepare and evaluate the prospective flight lead's ability to plan, brief and lead a multi-element tactical flight.

b. General

(1) Prospective Flight Leads (FL) shall conduct the following sortie in order to develop the PUI's flight leadership necessary for designation.

(2) Flight Leader training will be conducted under the guidance of an FL or higher. Informal mission commander training may be conducted at any time, however, for consistency, the FL-617 code will be reserved for the check flight. The check flight shall be evaluated by a FLSE from another command. If a FLSE from another command is unavailable, the MAG/MAGTF commanding officer may approve the use of internal squadron FLSE.

(3) A prospective FL must be fully qualified to lead a flight under all conditions in performance of any of the squadron tasks as well as meet the following prerequisites:

(a) Be a CH-46E Division Leader.

(b) Have no less than 750 total flight hours.

(c) Have flown a minimum of three flights as a designated Division Lead.

(d) Nominated by the Standardization Board.

(4) The FL Under Instruction (FLUI) will perform preflight planning, conduct a tactical mission brief, lead a flight of five (5) or more assault aircraft with escorts, and conduct a debrief. Evaluation will be based on flight safety, formation integrity, situational awareness, formation approaches and landings, and communication procedures. Additionally, evaluation will address tactical soundness, contingency planning, brief delivery, and use of supporting arms and flexibility during execution.

(5) If not flown in conjunction with MEU workups, WTI or MAGTF exercise, the squadron operations department will provide the proposed FL with a tactical scenario containing sufficient information to enable mission analysis and planning.

c. Minimum Crew Requirements. P/CP/CC/ (AGO when conducted on NS).

d. Ground/Academic Training. The following matrix will be used to track academic and administrative training.

SELF PACED READINGS		DATE COMP
MAWTS-1/TTECG HOW TO PLAN A HELICOPTERBORNE ASSAULT		
ASD OBJECTIVE AREA PLANNING & BRIEFING		
REQUIRED CHALK TALKS	**INSTRUCTOR**	**DATE COMP**
CONDUCT OF MISSION WALKTHROUGH		
REQUIRED LECTURES	**INSTRUCTOR**	**DATE COMP**
MAWTS-1 JOINT AIR OPERATIONS		
MAWTS-1 TRAP		
MAWTS-1 AVIATION SUPT TO THE MAGTF		
ASD EXECUTION CHECKLIST		
ASD NEO EXECUTION		

e. Flight Training. (2 Flights, 3.0 Hours).

FL-617 1.5 R,E 5+ Assault Support aircraft A (N)

Goal. Flight leader check utilizing a METL based tactical scenario. Emphasize planning, coordination and control of all supporting arms, escorts and agencies in meeting with mission requirements.

Requirement. FLUI shall plan, brief, lead, and debrief a multi-element tactical flight. Flight shall include fire support considerations and actual escorts. Use Air NTTP 3-22.1/Air NTTP 3.22-3/Air NTTP 3.22.5 CH-46E as source documents for planning.

Discuss:
- CRM/crew comfort level
- ASE operations
- Secure and active voice communication
- Planning based on METT-TSL
- Aerial gunnery procedures
- Helicopter Operation Planning Checklist
- Landing zone, landing site, landing point considerations
- Multiple wave requirements for an objective area
- Deconfliction/integration of multiple flight elements

Review:
- Tactical planning, briefing, execution and the use of onboard ASE and navigation systems
- Tactical conduct of flight, wingman control, task delegation
- Multiple flight element integration
- Radio procedures and discipline consistent with EMCON conditions
- Escort tactics

Performance Standards
-Plans and briefs a tactical mission IAW the Rotary Wing TACSOP and ANTTP 3-22.3.
-Keeps section oriented within 200 meters.
-Arrive at LZ or coordinated checkpoint within 30 seconds of briefed plan.
-Land at intended point of landing within 50 meters.

-Demonstrate proper employment of ASE.
-Demonstrate proper use of tactical formations
-Demonstrate situational awareness of other aircraft through all phases of flight.
-Demonstrate positive control of flight.
-As applicable, demonstrate proper understanding of NS considerations with multiple aircraft aerial gunnery.
-As applicable demonstrate proper understanding of Laser employment.
-Demonstrate proper understanding of C4I utilization to facilitate execution and information flow.
-Demonstrate appropriate respect for threat from planning through execution.
-Demonstrate understanding of aircraft maneuver with regard to threat response in concert with proper aerial gunnery employment.
-Demonstrate proper understanding of escort considerations.
-Demonstrate proper understanding of secure and active communications.
-Demonstrate understanding of FSCM utilization.
-Demonstrate understanding of contingency considerations.

Prerequisite. Designated Division Leader, completion of FL academics.

Ordnance. 200 rounds .50 cal per aircraft, 20 chaff and 40 flares.

Range Requirements. Aerial Gunnery range and/or EW/threat simulation range as required.

External Syllabus Support. CAL zones, Authorized TERF area, RW and/or FW escort.

7. Air Mission Commander (MC)

a. Purpose. To prepare and evaluate the prospective Air Mission Commander's (AMC's) ability to plan, brief and lead a multi-element tactical flight.

b. General

(1) Designation as AMC is a function of command. When designating AMCs, the squadron commanding officer will consider qualities of personal integrity, judgment and initiative in addition to rank and flight experience. Prospective AMCs shall conduct the following flight in order to develop/evaluate the PUI's flight leadership. Informal mission commander training may be conducted at any time under the guidance of a qualified AMC, however, for consistency, the FL-618 code will be reserved for the check flight. The check flight shall be evaluated by a FLSE from another command. If a FLSE from another command is unavailable, the MAG/MAGTF commanding officer may approve the use of internal squadron FLSE. AMC check flights will be evaluated by a qualified AMC.

(2) An AMC is responsible for all phases of the assigned mission except those aspects of safety of flight that are related to the physical

control of the aircraft and fall within the prerogatives of the pilot in command.

(3) A prospective AMC must be fully qualified to lead a flight under all conditions in performance of any of the squadron tasks as well as meet the following prerequisites:

(a) Minimum of 750 total flight hours and three flights as a designated DL.

(c) Nominated by the Standardization Board.

(4) The AMC Under Instruction (AMCUI) will perform preflight planning, conduct a tactical mission brief, lead a multi-division integrated mission with escorts, and conduct a debrief. Evaluation will be based on brief delivery, coordination and supervision of key personnel (FL, EFL, SFL & HUC), flight management/leadership, communication procedures, plan flexibility, use of supporting arms, and overall command and control of the evolution.

c. Minimum Crew Requirements. N/A

d. Ground/Academic Training. The following matrix will be used to track academic and administrative training.

SELF PACED READINGS		DATE COMP
MAWTS-1/TTECG HOW TO PLAN A HELICOPTERBORNE ASSAULT		
ANTTP 3-22.3, CH 1 - MISSION PLANNING		
ANTTP 3-22.3, CH 2 - TACTICAL FORMATION FLIGHT		
ANTTP 3-22.3, CH 6 - ASSAULT SUPPORT OPERATIONS		
ANTTP 3-22.3. CH 7 - ESCORT CONSIDERATIONS		
ANTTP 3-22.3, CH 8 - MEU (SOC) OPERATIONS		
ANTTP 3-22.3, CH 9 - PRINCIPLES OF ELECTRONIC WARFARE		
ANTTP 3-22.3, CH 10 - DACM EMPLOYMENT		
ANTTP 3-22.3, CH 11 - THREAT COUNTER TACTICS		
ANTTP 3-22.3, CH 12 - NIGHT AND ALL WEATHER OPERATIONS		
ANTTP 3-22.3, CH 13 - WEAPON SYSTEM EMPLOYMENT		
ANTTP 3-22.3, CH 14 - FARP OPERATIONS		
REQUIRED CHALK TALKS	**INSTRUCTOR**	**DATE COMP**
C&C COMM SETUP		
CONDUCT OF MISSION WALKTHROUGH		
REQUIRED LECTURES	**INSTRUCTOR**	**DATE COMP**
MAWTS-1 CONTROL OF ACFT & MISSILES		
MAWTS-1 MAGTF TARGETING & FIRE SUPT PLANNING		
ASD RAPID RESPONSE PLANNING		
ASD HELICOPTER ASSAULT KEY PLAYERS		

e. Flight Training. (1 Flight, 1.5 Hours).

MC-618 1.5 R E 2+ Div (N)

Goal. Air mission commander check or review utilizing a METL based tactical scenario.

Requirement. AMCUI shall plan, brief, lead, and debrief a multi-element tactical mission. AMCUI should be evaluated on ability to integrate six functions of Marine Aviation. Preferably executed from a C&C platform. Use Air NTTP 3-22.1/Air NTTP 3.22-3/Air NTTP 3.22.5 CH-46E as source documents for planning.

Discuss:
- Secure and active voice communication
- Planning based on METT
- Helicopter Operation Planning Checklist
- Landing zone, landing site, landing point considerations
- Multiple wave requirements for an objective area
- Deconfliction/integration of multiple flight elements
- C&C platform selection and utilization

Review:
- Tactical planning, briefing, and execution
- Task delegation and flight element control
- Multiple flight element integration
- Radio procedures and discipline consistent with EMCON conditions
- In-flight changes/retasking
- Contingency mission assignment and control

Performance Standards
-Plan and brief a tactical mission IAW the Rotary Wing TACSOP and ANTTP 3-22.3.
-Maintain flight leadership control.
-Demonstrate SA of all aircraft within flight.
-Demonstrate appropriate respect for threat from planning through execution.
-Demonstrate proper understanding of event-driven versus time-driven mission execution.
-Demonstrate proper understanding of C4I utilization to facilitate execution and information flow.
-Demonstrate proper understanding of escort considerations.
-Demonstrate proper understanding of secure and active communications.
-Demonstrate understanding of FSCM utilization.
-Demonstrate understanding of contingency considerations.

Prerequisite. Minimum of 750 total flight hours and three flights as a designated DL, TAC-402, completion of AMC academics.

Ordnance. As required.

Range Requirements. Aerial Gunnery range and/or EW/threat simulation range as required.

External Syllabus Support. GCE and MACCS agencies as required, RW and/or FW escort.

151. GRADUATE LEVEL COURSES

1. General. There are 5 graduate level courses that qualify instructors for specific portions of the T&R syllabus. These courses are as follows:

a. Weapons and Tactics Instructor (WTI).

b. Terrain Flight Instructor (TERFI).

c. Night Systems Familiarization Instructor (NSFI).

d. Night Systems Instructor (NSI).

e. Defensive Measures Instructor (DMI).

2. The current MAWTS-1 Course Catalog lists the above courses by training codes. There will be no refly factors for these instructor flights. T&R syllabus proficiency in stage is considered sufficient to maintain proficiency as an instructor.

152. SPECIAL TRAINING FLIGHTS (STF). The purpose of this section is for aircrew to develop proficiency in flight procedures and techniques involving special training requirements. Due to the special equipment and logistical support, facilities or supporting units required to conduct special training flights, squadrons may complete these flights as appropriate support becomes available and mission requirements dictate.

1. STF Overview

a. Purpose. To teach the fundamentals of flying in an arctic weather environment; flying in a dusty, high temperature, high density altitude desert environment; and the ability to conduct day water takeoffs and landings.

b. Prerequisite. SCAL-210.

c. Crew Requirements. P/CP.

d. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (1 Event, 2.0 Hours)

SSTF-620	2.0	WST S (N)

Goal. Introduce helicopter operations in an arctic weather environment; flying in a dusty, high temperature, high density altitude desert environment; and the ability to conduct day water takeoffs and landings.

Requirement

Discuss:
Cold dry conditions.
Blowing snow/white-out conditions.
Icing/aircraft anti-ice.
Aircraft hot and cold weather limitations.

High density altitude
Blowing sand / brown-out conditions.
CRM requirements for water landings.
Water landing checklist.
Waterfall effect and salt encrustation.
Rescue with the side door down procedures and limitations.
Inadvertent HEFS deployment.
Ditching.

Introduce:
Snow landing techniques.
Desert landing techniques.
Water taxi.
Vertical water takeoff and landing.
Running water takeoff and landing.

Review: NATOPS Chapter 13.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on zone, land within 2 rotors of intended point of landing, demonstrate ability to perform no-hover landings. Recognize and control closure and descent rates, perform vertical landing and takeoff, perform water taxi.

Prerequisite. SCAL-210.

External Syllabus Support. Arctic weather/desert environment/ water landing capable WST.

2. Arctic Weather Training (AWT)

a. Purpose. To teach the fundamentals of, and/or develop proficiency in any aspect of flying in cold weather with snow on the ground.

b. General

(1) Ambient air temperatures will normally be below 10 degrees Fahrenheit with snow on the ground. Pilots must note that cold dry conditions with blowing snow will significantly increase the difficulty of arctic weather flight.

(2) Aircrew shall be NSQ (appropriate light level) for all NS flights.

(3) Prerequisite. SCAL-210.

c. Minimum Crew Requirements. P/CP/CC/ (AGO if NS are used).

d. Ground/Academic Training. Utilize academic courseware as outline in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (1 Flight, 2.0 Hours)

AWT-621 2.0 1 CH-46E A (N)

Goal. Introduce helicopter operations in a cold weather environment.

Requirement

Discuss:
Cold dry conditions.
Blowing snow.
White-out conditions.
Aircraft cold weather limitations.
Aircraft anti-ice.
Icing.

Introduce: Snow landing techniques.

Review: NATOPS Chapter 13.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on zone, land within 2 rotors of intended point of landing, demonstrate ability to perform no-hover landings.

Prerequisite. CAL-211.

External Syllabus Support. Snow on the ground in the landing zone.

3. Desert Operations (DES)

a. Purpose. To develop proficiency in aspects of flying in a dusty, high temperature, high density altitude desert environment.

b. General

(1) Aircrew shall be NSQ (appropriate light level) for all NS flights.

(2) Prerequisite. CAL-211

c. Minimum Crew Requirement. P/CP/CC (AGO if NS are used).

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (1 Flight, 2.0 Hours)

DES-622 2.0 1 CH-46E A (N)

Goal. Introduce helicopter operations in a desert environment.